
New liverwort (Marchantiophyta) records for the Fiji Islands

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Abstract

Forty-eight species of liverworts (Marchantiophyta) are reported as new to the Fiji Islands. These records increase the number of Fijian liverworts by over 20%. Extensions of range within Fiji are reported for an additional 39 taxa already known to occur within the Fijian archipelago. These records indicate that the Fijian flora is understudied and many localities in Fiji, including entire islands, remain under-collected for bryophytes. *Metalejeunea crassitexta* (J.B.Jack et Steph.) Pócs is proposed as a new combination, and *Lejeunea microstipula* Steph. is reduced to a synonym of *Lejeunea exilis* (Reinw., Blume et Nees) Grolle.

Introduction

The Republic of Fiji consists of over 300 islands of varying sizes with an aggregate land area of about 18,300 km² as well as many smaller islets and off-shore rocks (DoE 1997). Many localities in Fiji, including entire islands, remain under-collected for many plant groups (DoE 1997). Von Konrat et al. (2011, this issue) provides an overview of the current state of floristic knowledge for Fijian liverworts. Historically, very few publications have focused solely on collections from Fiji. However, in the last decade, there has been an increasing interest in the Fijian liverwort flora, as exemplified by Pócs (2008a, b), Pócs & Eggers (2007) and field programs. This paper reports on new records, mostly collected by the first author with his wife, Sarolta Pócs, in 2003, as well as those on a joint expedition in 2008 organised by Matt von Konrat (F). The records are divided into two parts: a) new records for the Fiji Islands, represented by 48 taxa; and b) records for 39 taxa that are island range extensions. These reports cover the highlands of Taveuni, Viti Levu and Kadavu.

Methodology and materials

If not otherwise stated, the specimens were identified by the senior author. All specimens are deposited in EGR, with duplicates in F and SUVA. To reduce the length of the paper, and to avoid unnecessary duplication of detailed locality data, abbreviated specimen data is provided in the 'Specimens examined' section and full locality data can be cross referenced by the collection number in Appendix 1. For example, an abbreviated collection appears as follows in the text: Taveuni Island: *T. Pócs 08013/H*. In Appendix 1, this corresponds to: 08013 - TAVEUNI Island, NW slope of DES VOEUX (DEVO) peak, below PWD Weather Station, at 900-1100 m alt. S 16°50'18–28", W 179°57'57–58". Montane mossy forest. 11 Apr. 2008. The alphabetical letters that typically follow the collection numbers of the first author refer to multiple collections at the same locality. For many taxa the distribution has been extracted from the Early Land Plant Today (ELPT) databases of Söderström and Hagborg to supplement cited literature. The distribution and mapping of ELPT is described by von Konrat et al. (2010). Type data also are provided. Sources include the ELPT database and the online version of Index Hepaticarum (see: <http://www.ville-ge.ch/musinfo/bd/cjb/hepatic/index.php>). Type data is typically presented with the type country, followed by type information directly derived from the protologue. Where we have not been able to cite data directly from the published protologue, we defer to Index Hepaticarum (IH) online, which we cite as the source. In many cases the type data is cited directly from a cited reference.

Nomenclatural novelties

The following two nomenclatural novelties are made. The rationale is described in detail under the respective species in the main body of the list.

Lejeunea exilis (Reinw., Blume et Nees) Grolle, Journal of the Hattori Botanical Laboratory 46: 353 (1979)

Basionym: *Jungermannia exilis* Reinw., Blume et Nees, Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemerides sive Observationes Historias et Experimenta 12: 227 (1824) [1825]

Synonym: *Lejeunea microstipula* Steph. Hedwigia 29: 89, 139, XVI (1890) "*Micro-Lejeunea*" **syn. nov.**

Metalejeunea crassitexta (J.B.Jack et Steph.) Pócs, **comb. nov.**

Basionym: *Microlejeunea crassitexta* J.B.Jack et Steph., Botanisches Centralblatt 60: 106 (1894)

New records for the Fiji Islands

The following 48 taxa are reported new to the islands of Fiji.

1. *Bazzania falcifolia* (Steph.) H.A.Mill., Phytologia 47: 320 (1981)

Basionym: *Mastigobryum falcifolium* Steph., Denkschriften der Kaiserlichen Akademie der Wissenschaften, Wien. Mathematisch-Naturwissenschaftliche Klasse 88: 33 (1911)

Type citation: Samoa, “Insel Upolu. In Urwäldern bei Tiavi, auf Bäumen. Nr. 5370” *leg. Rechinger*. Source: IH online.

Illustration: Stephani (1985: 6879).

Specimens examined: Taveuni Island: *T. Pócs 08013/H*.

Bazzania falcifolia has previously been reported for New Caledonia and Samoa (Miller et al. 1983).

2. *Bazzania manillana* (Gottsche ex Steph.) S.Hatt., Botanical Magazine, Tokyo 64: 113 (1951)

Basionym: *Mastigobryum manillanum* Gottsche ex Steph., Hedwigia 25: 204 (1886)

Type citation: Philippines, “Manila, *leg. Gaudichaud* (Holotype: hb. Gottsche)”.

Illustration: Stephani (1985: 007142).

Specimens examined: Taveuni Island: *T. Pócs 08013/D*.

Bazzania manillana has previously been reported for Peninsular Malaysia, Philippines, Indonesia (Java), New Guinea, and Samoa (cf. ELPT database).

3. *Cheilolejeunea lindenbergii* (Gottsche) Mizut., Journal of the Hattori Botanical Laboratory 33: 226 (1970)

Basionym: *Lejeunea lindenbergii* Gottsche, Synopsis Hepaticarum 3: 336 (1845)

Type citation: Bangladesh, “prope Sylhet, Indiae orientalis (Wallich in Hb. L[ehmann])” - Sri Lanka “in Insula Ceylon... (Hb. H[oo]k[er]) n. 51 ex annotationibus Lindenbergii. Hb. L[ehmann] et N[ees])”.

Illustration: Mizutani (1967: 174, fig.III as *Cheilolejeunea luerssenii*).

Specimens examined: Taveuni Island: *S. & T. Pócs 03299/P*.

Cheilolejeunea lindenbergii was previously thought to be endemic to the Malesian region (Piippo 1994).

4. *Cheilolejeunea oclusa* (Herzog) T.Kodama et N.Kitag., Bulletin of the Osaka Museum of Natural History. Osaka. 28: 40 (1974).

Basionym: *Strepsilejeunea oclusa* Herz., Transactions of the *British Bryological Society* 1: 320 (1949)

Type citation: Malaysia (Sarawak), “Dulit Ridge, c. 1230 m, rambling on *Chiloscyphus aselliformis* var. *neesii*, on tree trunks in open ‘Mossy Forest’, no. 2200 p.p.”.

Illustration: Mizutani (1980: 324, fig. 3).

Specimen examined: Viti Levu Island: *S. & T. Pócs 03274/AT*.

Cheilolejeunea oclusa is also known from Indonesia (Sumatra and Borneo) (Mizutani 1980).

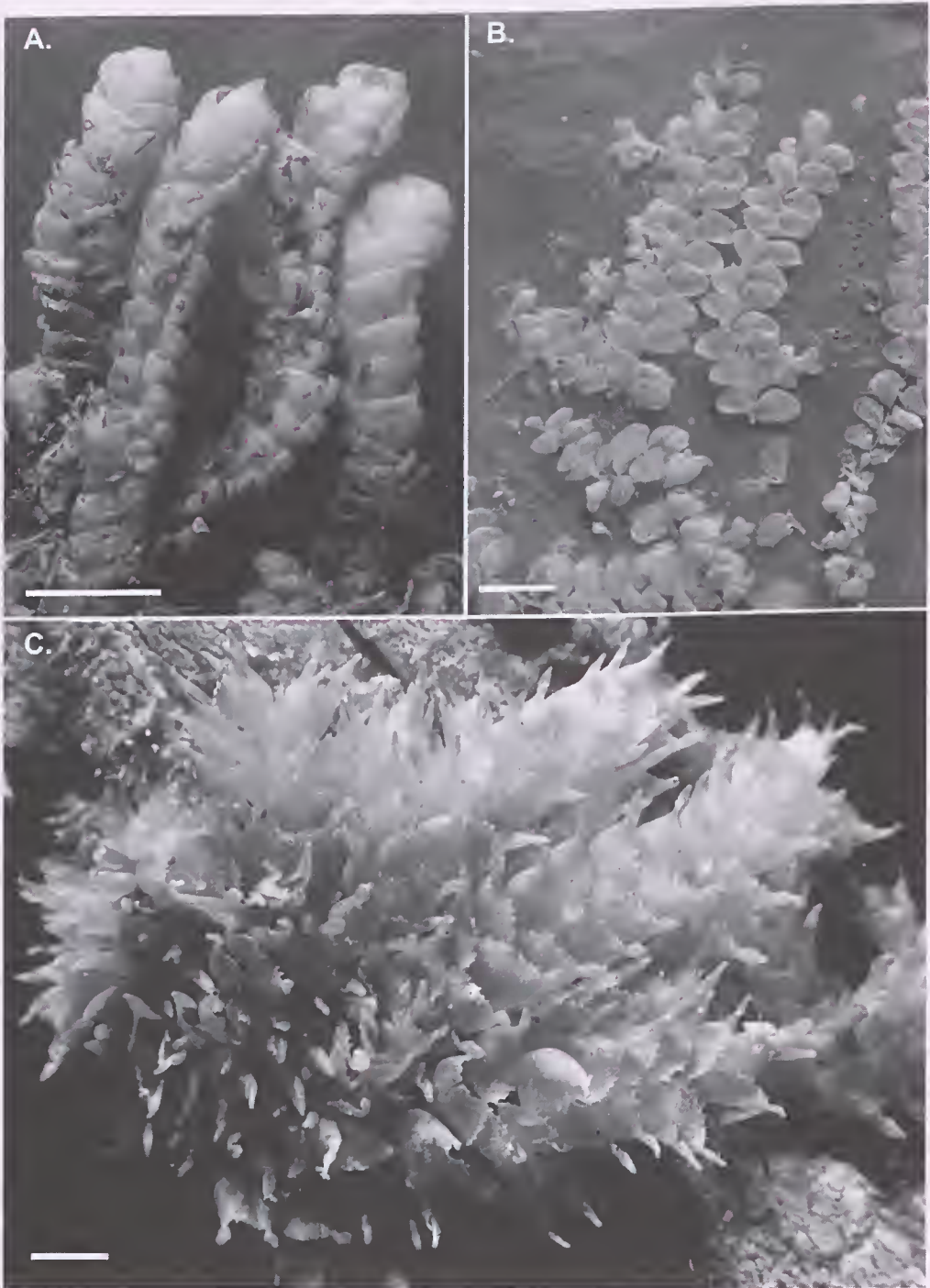


Fig. 1. A, *Pleurozia conchifolia*, habit (S. & T. Pócs 03279/N), scale bar 2.5 mm; B, *Cololejeunea aquabilis*, epiphyllous habit (S. & T. Pócs 03280/CP), scale bar 1 mm; C, *Colura brevistyla*, habit on bark (T. Pócs 08036/V), scale bar 1 mm.

5. *Cololejeunea aequabilis* (Sande Lac.) Schiffn., *Conspectus Hepaticarum Archipelagi Indici*: 242 (1898) Fig. 1b

Basionym: *Lejeunea aequabilis* Sande Lac., *Annales Museum Botanicum Lugduno-Batavi* 1: 310 (1864)

Type citation: Indonesia. Java, "prov. Bantam, in foliis Anonaceae", leg. *Blume*.

Illustration: Zhu et al. (1999: 294, fig.1 as *Cololejeunea yulensis*).

Specimens examined: Taveuni Island: S. & T. Pócs 03280/BK, 03280/BP; Viti Levu Island: S. & T. Pócs 03271/AB, 08037/E; A.J. Fife 08037/G, Q.

Cololejeunea aequabilis appears to be a Southeast Asian and Oceanian species, occurring in China, Indonesia, Japan, Vietnam, and Samoa (Zhu 2005).

6. *Cololejeunea amphibola* B.M.Thiers, *Beihefte zur Nova Hedwigia* 90: 130 (1988)

Type citation: Australia. "Queensland. Cook Dist.: Millaa Millaa Falls National Park, 900 m, 17°31'S, 145°38'E. Thiers & Halling 2210b, Jul 5, 1984 (Holotype: AD, isotype: NY)".

Illustration: Thiers (1998: 131, pl.1).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/CC, 03280/CL, 03289/BK pp; Viti Levu Island: S. & T. Pócs 03274/BH, BY.

Cololejeunea amphibola has previously been reported for Borneo, Sulawesi, New Guinea, and Australia (Queensland) (Eggers et al. 1998).

7. *Cololejeunea angustiflora* (Steph.) Mizut., *Journal of the Hattori Botanical Laboratory* 28: 113 (1965)

Basionym: *Leptocolea angustiflora* Steph., *Species Hepaticarum* 5: 848 (1915)

Type citation: New Guinea. "Nova Guinea" No detailed collection data.

Illustration: Mizutani (1965: 114, fig. IV); Zhu & So (2002: 432, figs 1-23).

Specimens examined: Taveuni Island: S. & T. Pócs 0279/AV, 0280/CQ.

Cololejeunea angustiflora has previously been reported from China (Taiwan), Philippines, Indonesia, Malaysia, Papua New Guinea, and New Caledonia (Zhu & So 2002).

8. *Cololejeunea cardiocarpa* (Mont.) A.Evans, *Memoirs of the Torrey Botanical Club* 8: 172 (1902)

Basionym: *Lejeunea cardiocarpa* Mont., *de la Sagra, Histoire Physique, Politique et Naturelle de l'Île de Cuba, Botanique, Plantes Cellulaires*: 476 (1842)

Type citation: Cuba. "Ad folia Calophylli Calabae repentem in Cuba insula legerunt hanc speciem clarr. Ramon de la Sagra et Auber" (Isotype: PCI).

Illustration: Schuster (1980: 1279, fig. 765); Asthana & Srivastava (2003: 100, pl. 16).

Specimens examined: Viti Levu Island: S. & T. Pócs 03260/N.

Cololejeunea cardiocarpa is a widespread species known from the Neotropics with

outliers in the south-eastern USA, Africa, and records from New Caledonia, tropical Australia, and New Zealand (Braggins 1999) as well as from Tonga and Tahiti Is. (Hürlimann 1987).

9. *Cololejeunea cocoscola* Tixier, Cryptogamie: Bryologie, Lichénologie 14: 353 (1993)

Type citation: Tonga. "Ouest de Neiafu (Vava'u), 50 m., Hürlimann T873a (Holotype: hb. Hürlimann)".

Illustration: Tixier (1993: 354, fig. 1).

Specimens examined: Kadavu Island: S. & T. Pócs 03302/C, 03303/J, 03303/AN; Viti Levu Island: S. & T. Pócs 03255/B, 03267/C; Taveuni Island: S. & T. Pócs 03283/O, 03284/C, 03285/BB, 03287/J, T Pócs 08015/C.

Cololejeunea cocoscola had previously been reported only from Tonga (Miller et al. 1983).

10. *Cololejeunea diaphana* A.Evans, Bulletin of the Torrey Botanical Club 32: 184 (1905)

Type citation: U.S.A., Florida, "in hammocks near the homestead trail, between Cutler and Camp Longview, leg. Small & Carter 1365 p. p., 1370 p. p."

Illustration: Evans (1905: 184, pl. 5); Schuster (1980: 1295, fig. 765; 1980: 1299, fig. 769 as *Aphanolejeunea diaphana*).

Specimens examined: Taveuni Island: S. & T. Pócs 03280/BJ, 03288/CY, 03289/CV.

Cololejeunea diaphana is new to the South Pacific. Pócs & Bernecker (2009) recognised *C. diaphana* as a Pantropical taxon distributed in tropical America, Africa and Asia.

11. *Cololejeunea equalbi* Tixier, Annales de la Faculté des Sciences, Université de Phnom Penh 3: 178 (1970)

Type citation: Vietnam. Thua Thien, Bach Ma, alt. 1400 m, Tixier 2309, 1962; Holotype, PC (Tixier 1985).

Illustration: Tixier (1985: 304, fig. 63); Zhu & So (2001: 287, fig. 108).

Specimens examined: Kadavu Island: S. & T. Pócs 03309/BD; Taveuni Island: S. & T. Pócs 03290/BD.

Cololejeunea equalbi is a Southeast Asian species (Piippo 1994), with records from China (Gansu, Shanxi, Yunnan, Hainan), Japan (Nansei-Shoto (Ryu-Kyu Is)), Vietnam, Philippines, Indonesia (Sulawesi, Moluccas), and New Guinea (c.f. ELPT database).

12. *Cololejeunea falcata* (Horik.) Benedix, Feddes Repertorium Specierum Novarum Regni Vegetabilis. Beiheft 134: 29 (1953)

Basionym: *Physocolea falcata* Horik., Journal of Science of Hiroshima University, Series B, Division 2 (Botany) 1: 22. f. 6. (1931)

Type citation: Japan. Bonin Islands [= Ogasawara Gunto] "Bonin: Insl. Chichijima (Y. Horikawa no. 1962a-type, July 1930)" (Holotype: HIRO). Source: IH online.

Illustration: Tixier (1979: 738, fig. 9); Thiers (1988: 140, pl.1).

Specimens examined: Taveuni Island: S. & T. Pócs 03299/BB, BC. 03280/BO, 03281/AC, 03288/BO 03289/BM, 03290/E; Viti Levu Island: A.J. Fife 08037/B; Vanua Levu Island: M. von Konrat 0624-9 pp.

Cololejeunea falcata has been recorded from Madagascar, China (including Taiwan), Japan, Taiwan, Ogasawara-shoto (Bonin), Sri Lanka, Thailand, Vietnam, Cambodia, Peninsular Malaysia, Sumatra, Borneo, Philippines, Indonesia, New Guinea, Queensland, New Caledonia, and Mariana Is (cf. ELPT database).

13. *Cololejeunea floccosa* (Lehm. et Lindenb.) Schiffn., *Conspectus Hepaticarum Archipelagi Indici*: 243 (1898)

Basionym: *Jungermannia floccosa* Lehm. et Lindenb., *Novarum et Minus Cognitarum Stirpium Pugillus* 5: 26 (1833)

Type citation: Philippines, “Insula Luzon, ad portum Sorzogon, in foliis arborum. Sine nomine communicavit cl. Prof. Presl”.

Illustration: Benedix (1953: 134, pl. 4); Zhu & So (2001: 343, fig. 128).

Specimens examined: Taveuni Island: S. & T. Pócs 03289/EN.

Cololejeunea floccosa was reported by Piippo (1994) as a Paleotropical species.

14. *Cololejeunea hirta* Steph., *Bulletin of Miscellaneous Information, Royal Gardens, Kew* 1899: 125 (1899)

Type citation: Papua New Guinea. “Vanapa valley, 2000–4000 ft.”

Illustration: Tixier (1985: 290, fig. 56)

Specimens examined: Taveuni Island: S. & T. Pócs 03293/AF.

Cololejeunea hirta is a tropical Asian and South Pacific species, and has been reported from Vietnam, Peninsular Malaysia, Borneo, Indonesia (Java), New Guinea, Solomon Islands, and Tonga (Tixier 1985) as well as Hawaii (Mizutani 1961). However, Staples & Imada (2007) treated *Cololejeunea hirta* as doubtful for Hawaii.

15. *Cololejeunea huerlimannii* Tixier, *Nova Hedwigia* 31: 773 (1979)

Type citation: New Caledonia, “Nouvelle Calédonie, Monts Koghis, S.E. du Mont Bouo, épiphyllé sur feuilles de palmier, 830 m, 12.11.1950, *Huerlimann 2093* (Holotype). Espèce dédiée au Dr. Huerlimann”.

Illustration: Tixier (1979: 774, fig. 29); Tixier (1985: 247, fig. 30).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/BO.

Cololejeunea huerlimannii was previously known only from New Caledonia (Miller et al. 1983).

16. *Cololejeunea inflectens* (Mitt.) Benedix, *Feddes Repertorium Specierum Novarum Regni Vegetabilis. Beiheft* 134: 79 (1953)

Basionym: *Lejeunea inflectens* Mitt., *Journal of the Proceedings of the Linnean Society* 5: 117. (1861)

Type citation: Sri Lanka, “In insula Ceylon, inter Macromitrias Horton Plains, *Gardner*” (Holotype: NY, isotype: FH).

Illustration: Benedix (1953: 134, pl. 30, as *C. cilitilobula* and *C. peculiaris*).

Specimens examined: Kadavu Island: S. & T. Pócs 03304/AC, 03309/BE; Taveuni Island: S. & T. Pócs 03282/BL, 03289/N, 03296/Z. Viti Levu Island: S. & T. Pócs 03276/A T Pócs 08033/G, 08035/L, 08036/R.

Cololejeunea inflectens was reported by Piippo (1994) as a Paleotropical species, distributed from Madagascar and Seychelles to New Caledonia and Caroline Islands (Miller et al. 1983).

17. *Cololejeunea kapingaensis* H.A.Mill., *The Bryologist* 59: 170 (1956)

Type citation: Caroline Islands, “Werua islet, Kapingamarangi atoll, Caroline Islands, on bark of Pandanus 6 feet above soil level, mixed with other Hepaticae, W.A. Niering 38. July 2. 1954. Type specimen in the herbarium of the B. P. Bishop museum, Honolulu; isotypes in the U. S. National Herbarium, Washington; Conservatoire Botanique, Genève; Dudley Herbarium, Stanford; and the herbarium of the author”.

Illustration: Miller (1956: 172, fig. A-L).

Specimens examined: Viti Levu Island: S. & T. Pócs 03253/W.

Cololejeunea kapingaensis is a Pacific species, including the Caroline and Marshall islands, and Australia (Pócs & Streimann 2006).

18. *Cololejeunea kulenensis* Tixier, *Bryophytorum Bibliotheca* 27: 71 (1985)

Type citation: Sumatra, “Depok, leg. K.v. Goebel, n.2, Feb.1925”.

Illustration: Herzog (1932: 95, fig. 2a); Tixier (1985: 32, fig. 56).

Specimens examined: Kadavu Island: S. & T. Pócs 03304/AB, 03308/H, 03309/BM. Taveuni Island: S. & T. Pócs 03295/M. Viti Levu Island: 5.5 km NW of Suva city limits. Secondary forest over laterite. 19 Sept 1981 W.R. Buck 7192 (NY) Det B.M. Thiers.

Cololejeunea kulenensis has been reported for Cambodia, Peninsular Malaysia, and Sumatra (cf. ELPT database).

19. *Cololejeunea lanciloba* Steph., *Hedwigia* 34: 250 (1895)

Type citation: India, “Insulae Nicobaricae (Sulp. Kurz 3917)”

Illustration: Zhu & So (2001: 278, fig. 106); Daniels, Kariyappa & Daniel (2010: 292-293, figs. 1-35).

Specimens examined: Kadavu Island: S. & T. Pócs 03301/AE. Taveuni Island: S. & T. Pócs 03295/M. Viti Levu Island: S. & T. Pócs 03260/M.

Cololejeunea lanciloba is apparently a widespread paleotropical species (Piippo 1994).

20. *Cololejeunea latilobula* (Herzog) Tixier, *Bryophytorum Bibliotheca* 27: 156 (1985)

Basionym: *Leptocolea latilobula* Herzog in *Handel-Mazzetti, Symbolae Sinicae* 5: 54 (1930)

Type citation: China [Sichuan], “Lebende Schoepfia jasminodora-Rinde in der wtp St. des mittelchin. Fl. bei Djindjischan nächst Loping, 1600 m. 12. VI. 1917 (10171)”

Illustration: Tixier (1985: 158 fig. 80); Asthana & Srivastava (2003: 105, pl. 21).

Specimens examined: Kadavu Island: S. & T. Pócs 03301/AE.

Cololejeunea latilobula was thought to be endemic to the Western Malesian region (Piippo 1994).

21. *Cololejeunea longifolia* (Mitt.) Benedix ex Mizut., Journal of the Hattori Botanical Laboratory 26: 184 (1963)

Basionym: *Lejeunea longifolia* Mitt., Journal of the Proceedings of the Linnean Society 5: 117 (1861)

Type citation: India. Sikkim Himalaya, 4-8000 ft., J.D. Hooker 1496 (Holotype: NY; isotype: BM, Zhu & So 2001).

Illustration: Zhu & So (2001: 309, fig. 117).

Specimens examined: Viti Levu Island: Naitasiri Prov.: Northern portion of Rairaimatuku Plateau, between Mt Tomanivi and Nasonggo, alt. 870-970 m. Aug-Sept 1947. A.C. Smith 5760 pp. (NY) Det. M. Fulford as *Physocolea (Cololejeunea) leptolejeunoides* Schiffn.

Cololejeunea longifolia was reported by Piippo (1994) as an Asian-Oceanian species.

22. *Cololejeunea paucimarginata* Tixier, Bryophytorum Bibliotheca 27: 100 (1985)

Type citation: Indonesia. “Java, Bogor, épiphyllé sur Fougère, 250 m, 13. 4. 1969, Tixier 4338”. (Holotype, PC), 4339, 4440.

Illustration: Tixier (1985: 100, fig. 48).

Specimens examined: Taveuni Island: S. & T. Pócs 03298/F.

Cololejeunea paucimarginata has previously been reported from Java (Tixier 1985). The taxon may be a form of *C. raduliloba* (R.-L. Zhu, pers. comm., in Söderström et al. 2010), but at least based on Fijian specimens, no transitional forms have been observed.

23. *Cololejeunea pseudoserrata* Tixier, Nova Hedwigia 31: 770 (1979)

Type citation: New Caledonia, “Nouvelle Calédonie, Rivière Bleue, 200 m. 24.7.1974. Schmid s.n. (Holotype)”.

Illustration: Tixier (1979: 770: fig. 27); Tixier (1985: 283, fig. 52)

Specimens examined: Taveuni Island: S. & T. Pócs 03279/CA, 03280/CM, 03285/BC, T. Pócs 08012/AD.

Cololejeunea pseudoserrata has previously been reported from New Caledonia (Miller et al. 1983).

24. *Cololejeunea raduliloba* Steph., Hedwigia 34: 251 (1895)

Type citation: Vietnam. Tonkin. Khang-Thuong (Ma Co), 9 Nov. 1885, Bon s.n. Holotype: G-1957 (Zhu & So 2001).

Illustration: Tixier (1985: 105, fig. 51); Zhu (1995: 98); Isono (2009: 45–46, figs 3 & 4).

Specimens examined: Taveuni Island: S. & T. Pócs 03285/B, 03293/AN. Viti Levu Island: S. & T. Pócs 03267/A.

Cololejeunea raduliloba is a pantropical species with a distribution including, but not limited to the Seychelles, Madagascar, China, Korea, Japan, Vietnam, Borneo, Indonesia, Australia, New Caledonia, and Caroline Is (cf. ELPT database).

25. *Cololejeunea schmidtii* Steph., Botanisk Tidsskrift 24: 278 (1902)

Type citation: Thailand. Koh Chang, Klong Munsé & Nipple, 2000 ft., *Schmidt*. Holotype: G-14217 (Zhu & So 2001).

Illustration: Benedix (1953: 134, pl. 16); Zhu & So (2001: 334, fig. 125).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/AW, 03280/CD, 03288/CV, 03289/CW. Viti Levu Island: S. & T. Pócs 032069/K, 03273/CH, 03274/BB.

Cololejeunea schmidtii is a Southeast Asiatic species distributed from Sri Lanka to Japan and Papua New Guinea (Pócs & Streimann 2006).

26. *Cololejeunea sintenisii* (Steph.) Pócs, in Dauphin et al., Cryptogamie, Bryologie 29: 235. 2008

Basionym: *Aphanolejeunea sintenisii* Steph., Species Hepaticarum 5: 861 (1916)

Type citation: Puerto Rico, "Sintenis No. 136".

Illustration: Schuster (1980: 1304, fig. 771, as *Aphanolejeunea ephemeroides*; Allorge & Jovet-Ast (1950: 21, figs 1 & 2, as *Aphanolejeunea teotonii*).

Specimens examined: Viti Levu Island: T. Pócs 08036/H.

Cololejeunea sintenisii is a pantropical species (Pócs & Bernecker 2009).

27. *Cololejeunea societatis* Tixier, Bauhinia 8: 230 (1987)

Type citation: Tahiti, "T 1182 a (Holotypus PC, isotypus Hb. Hürlimann Basel) epiphyll an Strauch nahe der Wasserfassung ob der landwirtschaftlichen Versuchsstation auf der Halbinsel Tairapu. 13. II. 1952, leg H[ans] H[ürlimann]".

Illustration: Hürlimann (1987: 231, fig. 4).

Specimens examined: Taveuni Island: S. & T. Pócs 03289/BJ, BO.

Cololejeunea societatis has previously only been reported for Society Is (cf. ELPT database).

28. *Cololejeunea stylosa* (Steph.) Steph. ex Mizut., Journal of the Hattori Botanical Laboratory 28: 109 (1965)

Basionym: *Lejeunea stylosa* Steph., Hedwigia 27: 289 (1888)

Type citation: Philippines, "Insula Luzon, leg. Micholitz, 1886".

Illustration: Zhu & So (2001: 271, fig. 104).

Specimens examined: Viti Levu Island: S. & T. Pócs 03252/BD, 03276/H.

Cololejeunea stylosa has been recorded from China, Japan, Nansei-Shoto (Ryu-Kyu Is), Taiwan, Ogasawara-shoto (Bonin), Kazan-retto (Volcano), Thailand, Laos, Vietnam,

Cambodia, Peninsular Malaysia, Philippines, Queensland, and Mariana Is (cf. ELPT database).

29. *Cololejeunea tridentata* Tixier, Bryophytorum Bibliotheca 27: 83 (1985)

Type citation: Malaysia, "Johore, Mont Ophir, épiphyllé dans les brousses au bord du lac de retenue, 300 m, 20. 4. 1972, Tixier 6255 (Holotype, PC)".

Illustration: Tixier (1985: 83, fig. 39).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/CX.

Cololejeunea tridentata was previously known from Borneo and Malaysia (Eggers et al. 1998).

30. *Cololejeunea wightii* Steph., Hedwigia 34: 253 (1895)

Type citation: [Malaya] Pulo Penang, s. d., Wallich s. n., ex hb Schiffner in hb G. Holotype: G-22054 (Zhu & So 1999b).

Illustration: Miller (1968: 254, fig. 37); Tixier (1979: 759, fig. 20 as *Cololejeunea cuspidata* Steph.); Tixier (1985: 249, fig. 31 as *C. wightii*; 1985: 250, fig. 32 as *C. cuspidata*); Thiers (1988: 136, pl. 9), Zhu & So (1999: 169, fig. 3); Miller et al. (1963a: pl. 21).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/J, 03306/C. Taveuni Island: S. & T. Pócs 0303291/B, 03292/G, 03293/D. Viti Levu Island: S. & T. Pócs 03252/W.

Cololejeunea wightii has a Pantropical distribution (Zhu & So 1999), with reports from Seychelles, China, India, Thailand, Cambodia, Peninsular Malaysia, New Guinea, Queensland, Norfolk I, New Caledonia, Tonga, Samoa, and Caroline Is (cf. ELPT database).

31. *Colura brevistyla* Herzog, Beihefte zum Botanischen Centralblatt 38: 331 (1921)

Fig. 1c & 2a,b

Type citation: Sri Lanka, "Ceylon: ohne näheren Fundortsvermerk, leg. Herzog II. 1906".

Illustration: Jovet-Ast (1953: 277, fig. 47).

Specimens examined: Viti Levu Island: T Pócs 08032/C, 08034/N, 08036/G, V. Taveuni Island: S. & T. Pócs 03288/BE.

Colura brevistyla has been reported from Sri Lanka, Vietnam Philippines, and the Mariana Islands (cf. ELPT database). The specimens from Fiji have stronger lobe dentition than the type.

32. *Colura tenuicornis* (A.Evans) Steph., Species Hepaticarum 5: 942 (1916) Fig. 2c

Basionym: *Colurolejeunea tenuicornis* A.Evans, Transactions of the Connecticut Academy of Arts and Sciences 10: 455 (1900)

Type citation: Hawaii. Oahu. Nuuanu (Cooke), on leaves of a fern, A. W. Evans s.n. & s.d. Holotype: YU. (Zhu & So 2001).

Illustration: Jovet-Ast (1953: 249, fig. 30); Zhu & So (2001: 234, fig. 89).

Specimens examined: Viti Levu Island: T. Pócs 08023/AA.

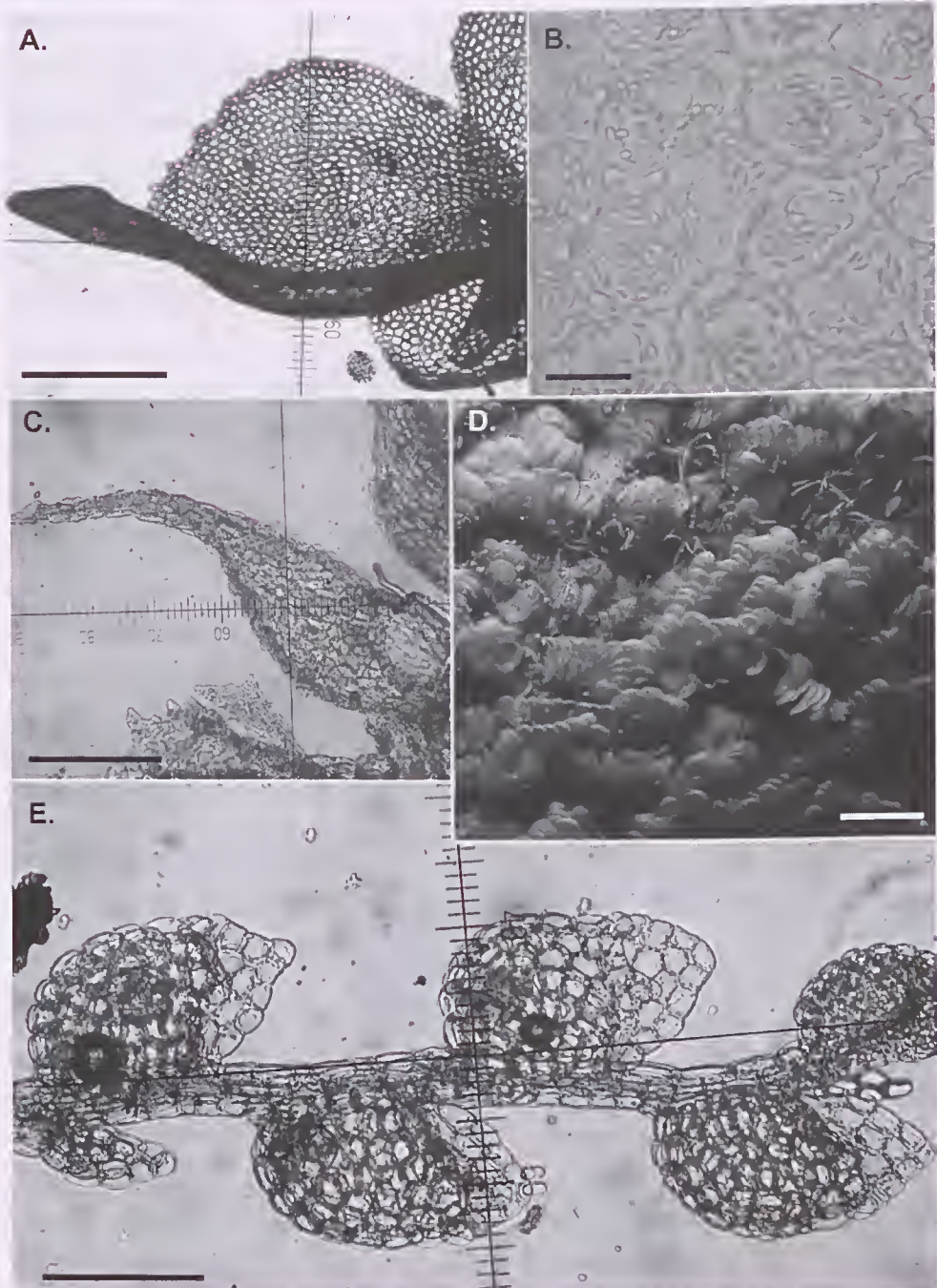


Fig. 2. A, B, *Colura brevistyla* (T. Pócs 08036/V). A, ventral lobe, scale bar 500 µm; B, oil bodies and cell anatomy, scale bar 20 µm; C, *Colura tenuicornis*, lobe and lobule (S. & T. Pócs 03274/AO), scale bar 500 µm; D, *Phaeolejeunea inermis*, habit on decaying wood (S. & T. Pócs 03300/AG), scale bar 2 mm; E, *Lejeunea exilis*, ventral view (S. & T. Pócs 03289/BY), scale bar 100 µm.

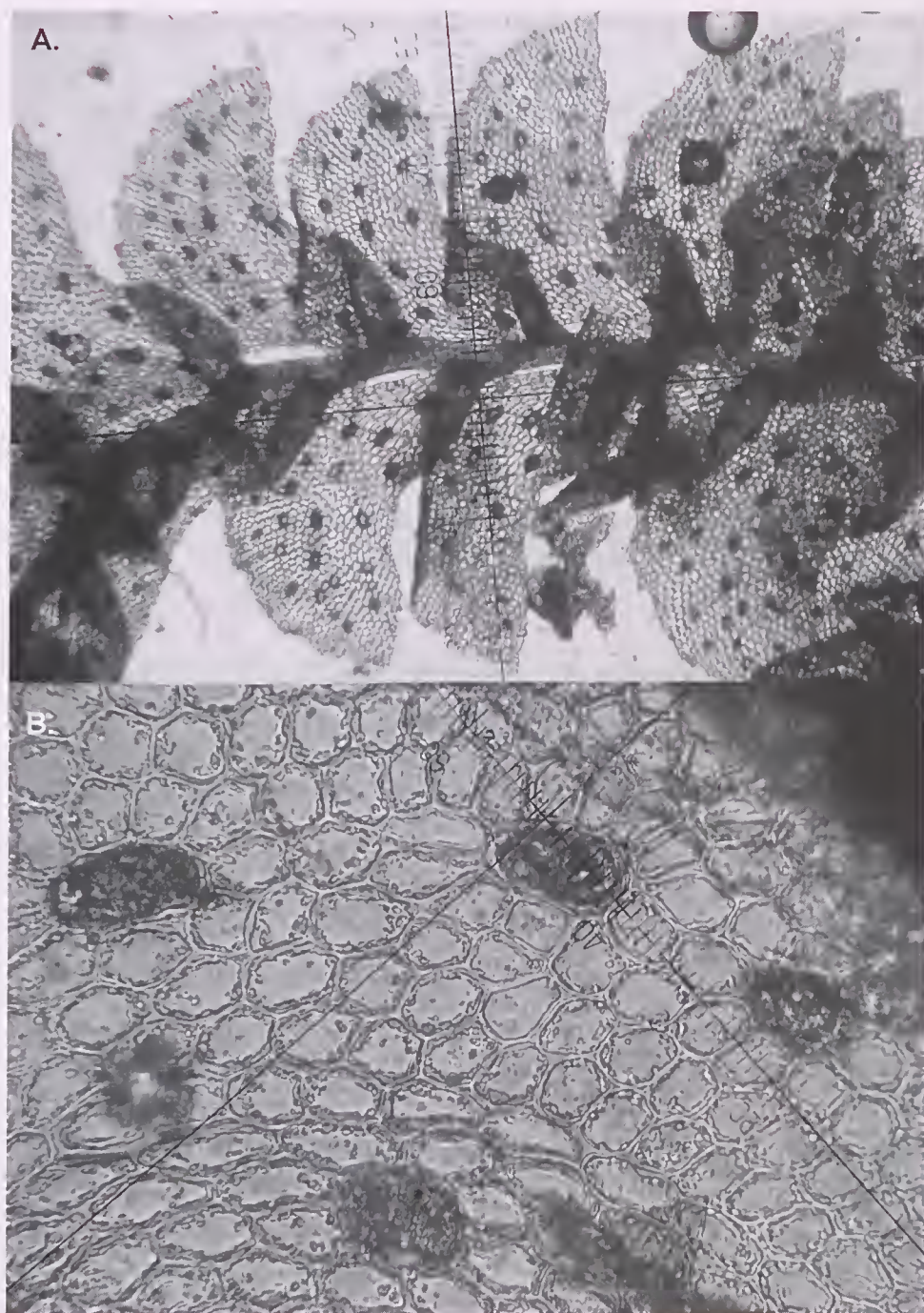


Fig. 3. A, B, *Drepanolejeunea tricornua*, (S. & T. Pócs 03280/BT). A, ventral view; B, median cells of leaf lobe.

Colura tenuicornis was reported by Piippo (1994) to be a Paleotropical species, excluding Australia.

33. *Drepanolejeunea tricornua* Herzog, Annales Bryologici 9: 124 (1936) Fig. 3a,b

Type citation: Indonesia. Seram, "S.O. Ceram. auf Oldenhamia auriculata, bei Wai Tok. 0-100 m, *Kornassie no. 1055/a*, 27.II.18 (Herb., H. B. Bog. no 4323)".

Illustration: Herzog (1936: 124, fig. 6); Mizutani (1990: 371, fig.2).

Specimen examined: Taveuni Island: S. & T. Pócs 03280/BS & BT.

Drepanolejeunea tricornua has been recorded from Borneo, Java, Seram and New Guinea (Mizutani 1990).

34. *Kurzia gonyotricha* (Sande Lac.) Grolle, Revue Bryologique et Lichénologique 32: 167 (1964)

Basionym: *Lepidozia gonyotricha* Sande Lac. Nederlandsch Kruidkundig Archief. Verslagen en Mededelingen der Nederlandsche Botanische Vereeniging 3: 521 (1851)

Type citation: Indonesia. Java, leg. *Junghuhn*. Source: IH online.

Illustration: Piippo (1985 177, fig 5f).

Specimen examined: Vanua Levu Island: Waisali Dakua National Trust Forest Reserve. On dead rotting log and humus at track margin, with *Telaranea* and *Bazzania*. M. von Konrat, J. E. Braggins, & A. Naikatini 06/8-8(1a). July 2006. Det. E. Brown.

Kurzia gonyotricha has been reported from Japan, Ryukyu, Taiwan, China (8 provinces), Thailand, Peninsular Malaysia, Sumatra, Java, Borneo, Sulawesi, Moluccas, Philippines, New Guinea, and New Caledonia (cf. ELPT database).

35. *Lejeunea alata* Gottsche, Synopsis Hepaticarum 3: 406 (1845)

Type citation: Lectotype ("Grolle 1977; der Holotypus ist in B verbrannt"): Maskarenen, in *Memecylo cordato*; Sieber, Fl. Mixt. [Exs.] no. 170, a cl. *Sonder illatum*, STR. Isolectotype Grolle 1977): G-17836, S, W (Lindenb. Hep. 6876).

Illustration: Zhu & So (2001: 138, fig. 53).

Specimens examined: Taveuni Island: S. & T. Pócs 03280/CS. Viti Levu Island: S. & T. Pócs 03273/R.

Lejeunea alata has been recorded from Africa: Tanzania and Indian Ocean Islands; S-China, Vietnam, Malaysia, Java, Sumatra, New Guinea, Samoa, and Polynesia (mostly after Zhu & So 2001).

36. *Lejeunea anisophylla* Mont., Annales des Sciences Naturelles; Botanique, sér. 2 19: 263 (1843)

Type citation: Hawaii. "ad cortices inter uscos in insulis Sandwich". Gaudichaud s.n. & s.d. Holotype: PC, Isotypes: BM, G (Zhu & So 2001).

Illustration: Jones (1972: 38-39 as *L. caespitosa*); Zhu & So (2001: 157 fig. 62).

Selected specimens examined: Kadavu Island: S. & T. Pócs 03301/AL. Taveuni Island: T Pócs 08021/H. Viti Levu Island: S. & T. Pócs 03252/Y

In Fiji, the species is very widespread, with more than 60 specimens collected on Kadavu, Taveuni, and Viti Levu on very different substrates. *Lejeunea anisophylla* is a Palaeotropic species common in Africa (Pócs 2010), tropical and subtropical Asia, Australia and Oceania eastwards to Tahiti and Hawaii (Zhu & So 2001).

37. *Lejeunea apiculata* Sande Lac., in Dozy (ed.), *Nederlandsch Kruidkundig Archief. Verslagen en Mededelingen der Nederlandsche Botanische Vereeniging* 3: 421 (1854) [1855]

Synonym: *Stenolejeunea apiculata* (Sande Lac) R.M.Schust. *Beihefte zur Nova Hedwigia* 9: 144. 1963

Type citation: Indonesia. Java, "Javam. TEYSM. in Herb. Dz. et Mb. In monte Salak. ZOLLINGER coll. sub n. 3560. Herb. JUNGH".

Illustration: Eifrig (1937: 100, fig. XII/2 as *Taxilejeunea apiculata*).

Specimens examined: Viti Levu Island: S. & T. Pócs 03274/BQ, BV.

Lejeunea apiculata has been recorded from Shaanxi, Shanxi, Guangdong, Hong Kong, Hainan, Japan, Nansei-Shoto (Ryu-Kyu Is), Taiwan, Sri Lanka, Vietnam, Cambodia, Nicobar Is, Sumatra, Borneo, Philippines, Sulawesi, Java, Australia (Queensland), and New Caledonia (cf. ELPT database).

38. *Lejeunea cocoes* Mitt., *Journal of the Proceedings of the Linnean Society. Botany* 5: 114. (1860) [1861]

Type citation: Sri Lanka, "Ad truncos Cocoes nuciferae, Balagom, Ceylon, *Gardner* (No. 1499)".

Illustration: Mizutani 1963: 177, figs 10-18.

Specimens examined: Viti Levu Island: S. & T. Pócs 03255/A, 03259/Z. Taveuni Island: S. & T. Pócs 03283/T, 03285/BK, 03287/B, 03293/U, 03294/C. Kadavu Island: S. & T. Pócs 03300/G, 03308/D.

Lejeunea cocoes is known from Diego Garcia, Chagos, Sri Lanka, S-India, S-China, Java, and Sarawak. The species is a new record for the Pacific.

39. *Lejeunea exilis* (Reinw., Blume et Nees) Grolle, *Journal of the Hattori Botanical Laboratory* 46: 353 (1979) Fig. 2e

Basionym: *Jmugermannia exilis* Reinw., Blume et Nees, *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemerides sive Observationes Historias et Experimenta* 12: 227 (1824) [1825]

Type citation: Indonesia. Java (Neotype designated by Bischler et al. 1962: STR sub. *Microlejeunea erectifolia*, isoneotype: W Lindenb. Hep. 6724 p.p. sub. *Microlejeunea encullata*, PC-Mont., S) (Grolle 1979).

Synonym: *Lejeunea microstipula* Steph. *Hedwigia* 29: 89, 139, XVI (1890) "*Microlejeunea*" **syn. nov.**

Type citation: Indonesia. Java, hb. Lindenberg n. 6721.

Grolle (1980) in his account on the liverworts of Samoa reported *Lejeunea microstipula* Steph. from Upolu Island, based on a specimen collected by Schultze-Motel 3640 and

3760/b and stated that *L. microstipula* belonged to subgen. *Byssolejeunea*, along with its closest relative, *Lejeunea exilis*, of which differs only by its acute leaf lobe. Zhu & Grolle (2003) in their detailed study on *Lejeunea exilis* described the species having very variable leaf lobes, i.e. “leaf lobes ovate, ovate-lanceolate or irregularly triangular-ovate“ with “apex acute, short acuminate, rounded, obtuse, rounded-obtuse, or obtuse-acute, flat, rarely incurved“. This variability was also illustrated in their figures, where the lobe apex varied from acute through triangular-obtuse to rounded, even within the same plant. The same variability was illustrated by Stephani in his *Icones* (Stephani 1985: 007759, 007760), where the type of *Lejeunea microstipula* has an acute lobe while another specimen collected by Paterson has ovate lobes with a rounded apex. This variability can be observed with Fijian specimens, therefore we believe the two taxa cannot be treated as separate species.

Illustration: Zhu & Grolle (2003: 103,104, figs. 1, 2).

Specimens examined: Taveuni Island: S. & T. Pócs 03269/P, 03273/CR, 03278/M, 03280/CO, 03286/AT, 03288/AD, 03289/BY, 03290/BA, T. Pócs 08013/AH. Viti Levu Island: S. & T. Pócs 03271/AF, 03272/B, 03273/AG, 03274/AB, AN, 08029/C pp, 08029/O.

Lejeunea exilis was reported by Piippo (1994) as an Asian-Oceanian species; with records from Réunion, Shaanxi, Anhui, Taiwan, Ogasawara-shoto (Bonin), Kazanretto (Volcano), India, Vietnam, Peninsular Malaysia, Sumatra, Borneo, Philippines, Moluccas, Java, New Guinea, Australia, Society Is, Caroline Is, and Mariana Is. (cf. ELPT database). Grolle (1980) recorded *Lejeunea exilis* for Samoa as *Lejeunea microstipula* Steph.

40. *Lepidolejeunea borneensis* (Steph.) R.M.Schust., *Phytologia* 45: 425 (1980)

Basionym: *Hygrolejeunea borneensis* Steph., *Species Hepaticarum* 5: 557 (1914)

Type citation: Indonesia, “Borneo occidentalis”

Illustration: Piippo (1986: 37, fig. 10).

Specimens examined: Viti Levu Island: T Pócs 08036/JB, AA. Taveuni Island: S. & T. Pócs 08036/JB, AA.

Lepidolejeunea borneensis has previously been reported for Malay Peninsula, Borneo, and Caroline Is (cf. ELPT database).

41. *Lopholejeunea hispidissima* Steph., *Species Hepaticarum* 5: 80 (1912)

Type citation: New Caledonia. *Franc* s.n. Holotype: G, Isotype: FH (Thiers & Gradstein 1989).

Illustration: Thiers & Gradstein (1989: 29, fig. 9).

Specimens examined: Taveuni Island: S. & T. Pócs 03292/K. Viti Levu Island: S. & T. Pócs 03263/G. Det. A. Sass-Gyarmati.

Lopholejeunea hispidissima has been reported for Australia (Queensland), New Caledonia, and Vanuatu (Sass-Gyarmati 2002).

42. *Microlejeunea lunulatiloba* Horik., Journal of Science of Hiroshima University, Series B, Division 2 (Botany) 1: 27 (1931)

Type citation: Bonin Islands [Ogasawara Gunto] “Bonin: Insl. Chichijima (Y. Horikawa, no. 1962b-type,... July 1930)”. Source: IH online.

Illustration: Miller et al. (1963b, pl. 131 f–l).

Specimens examined: Viti Levu Island: S. & T. Pócs 03259/AA.

Microlejeunea lunulatiloba is a Pacific species known from the Bonin, Caroline, Marshall, Mariana and Hawaiian islands (Miller et al. 1963a, Miller et al. 1983).

43. *Mnioloma novaezelandiae* J.J.Engel, Cryptogamie, Bryologie 27: 111 (2006)

Type citation: New Zealand, South Island, Southland Land District, Fiordland Natl. Park, Charles Sound, south side of Gold Arm, 340 m, 8 April 2002, Renner CMS J156 T/10 (Holotype, F; Isotypes, AK, CHR) (Engel 2006).

Illustration: Engel & Glenney (2008: 540, fig. 123).

Specimens examined: Viti Levu Island: T. Pócs 08028/F.

Mnioloma novaezelandiae has previously only been recorded from New Zealand. A report for Queensland by Renner & Braggins (2006) was based on an erroneous identification (Renner & Brown 2008), referring it to *Mnioloma* cf. *fuscum*. It is apparent that the complex needs revision in Australasia and Oceania.

44. *Phaeolejeunea inermis* (Steph.) Mizut., Journal of the Hattori Botanical Laboratory 31: 134 (1968) **Fig. 2d**

Basionym: *Lopholejeunea inermis* Steph., Species Hepaticarum 5: 92 (1912)

Type citation: Papua New Guinea. Milne Bay Prov.: Samarai, Fitzgerald s.n. Holotype: G-12642 (Gradstein et al. 2002).

Illustration: Mizutani (1968: XX, Fig II); Mizutani (1968: 133, fig. II/9–15).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/AG.

Phaeolejeunea inermis was previously known only from the type collected in Papua New Guinea (Mizutani 1968, Gradstein et al. 2002). Mizutani suggested, based on the scanty type specimen, that it is a poorly developed form of *P. latistipula* (Schiffn.) Mizut. However, the abundant material from Fiji, with seemingly stable characters, supports the independent identity of *P. inermis*.

45. *Plagiochila bicornuta* Steph., Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 23: 305 (1897)

Type citation: Samoa. R[einecke] 55. Holotype: G (So 2000).

Illustration: So (2000: 227, fig. 2).

Specimens examined: Taveuni Island: T. Pócs 08013/AE.

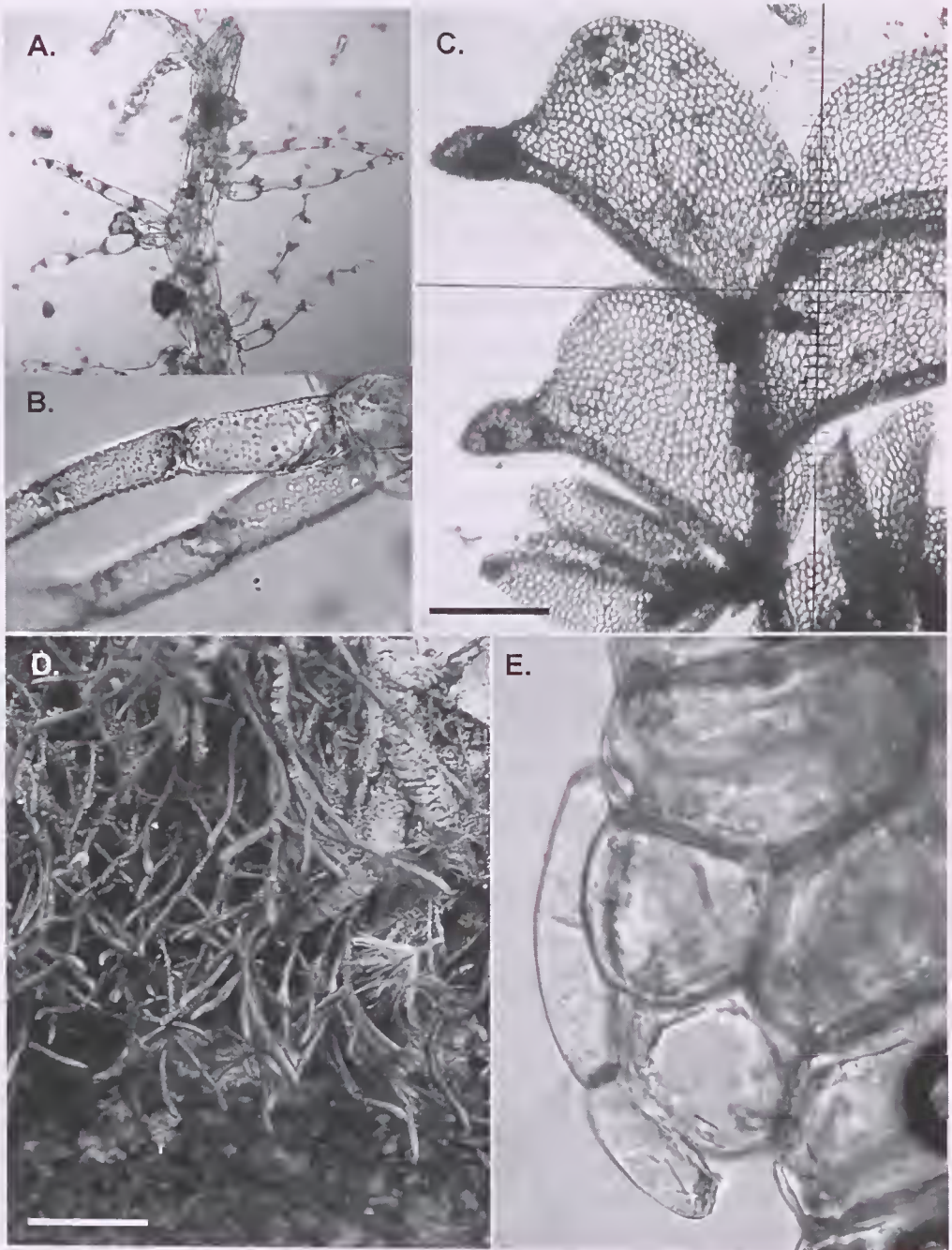


Fig. 4. A, B, *Telaranea rosarioana* (M. von Konrat, J. E. Braggins & A. Naikatini 06/7–13). A, habit with deeply bilobed leaves, B, cuticle conspicuously papillose; C, *Colura acroloba*, (S. & T. Pócs 03261/BO), scale bar 250 µm; D, *Cheilolejeunea trifaria*, habit on bark (S. & T. Pócs 03307/DB), scale bar 1 cm. E, *Zoopsis liukuensis* (M. von Konrat, J. E. Braggins, & A. Naikatini 06/8–8(1a).

Plagiochila bicornuta has been recorded from Borneo, Philippines, Moluccas, Java, New Guinea, New Caledonia, Vanuatu, Samoa, and Caroline Is (cf. ELPT database).

46. *Pleurozia conchifolia* (Hook. et Arn.) Austin, Bulletin of the Torrey Botanical Club 5: 16 (1874)

Basionym: *Jungermannia conchifolia* Hook. et Arn., The Botany of Captain Beechey's Voyage: 110 (1832)

Type citation: Sandwich Is. 1826, *Beechey* (Holotype: BM, Isotypes: BM, FH, H, NY, PC) (Thiers 1993).

P. conchifolia var. *conchifolia*

Fig. 1c

Illustration: Thiers (1993: 527, figs. 14-18).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/N.

Pleurozia conchifolia var. *conchifolia* has been recorded from Burma (Myanmar), Malay Peninsula, Sumatra, Borneo, Sulawesi, Moluccas, New Guinea, Solomon Islands, and Hawaii (cf. ELPT database).

47. *Telaranea rosarioaana* H.A.Mill., Journal of Bryology 14: 240 (1986) Fig. 4a,b

Type citation: Vanuatu. "Espiritu Santo Island, summit of Mt Patliu above Narango, 25 July 1984. H. A. Miller 15993 in admixture with *Symphogyna* and *Leucophanes* (paratype)".

Illustration: Miller (1986: 241, fig.4).

Specimens examined: Viti Levu: Rairaimatuku Plateau, on a summit with disturbed stunted forest with a telecommunication tower, ca. 15 km S of Monasavu Dam, at 1260 m, S 17°47'31", E 178°01'13.9", on very old, rotted tree fern trunk, M. von Konrat, J. Braggins & A. Naikatini 06/7-13, July 2006. Det. M. von Konrat & T. Pócs.

Telaranea rosarioaana was previously known only from the type locality in Vanuatu (Engel & Smith Merrill 2004). Engel & Smith Merrill (2004) mistakenly stated that this taxon was endemic to Fiji.

48. *Zoopsis liukiensis* Horik., Journal of Science of Hiroshima University, Series B, Division 2 (Botany) 1: 65 (1931) Fig. 4e

Type citation: Japan. Liukiu, Okinawa, *Horikawa* 2620. Source: IH online.

Illustration: Schuster (2000: 406-407, figs. 168-169).

Specimens examined: Vanua Levu Island: Waisali Dakua National Trust Forest Reserve. On dead rotting log and humus at track margin, with *Telaranea* and *Bazzania*. M. von Konrat, J. E. Braggins & A. Naikatini 06/8-8(1a). July 2006. Det. M. von Konrat & J. Braggins. Viti Levu Island: on the ridge of Rairaimatuku Plateau, ca. 2 km E of Monasavu Dam, on the SW side of a summit at 1050-1070 m alt. S 17°45'21", E 178°04'09". Shady, very wet stunted forest dominated by *Dicksonia brackenridgei*. On dead decaying matter at base of tree. M. von Konrat with T. Pócs, J. Braggins, E. Brown, M. Renner & A. Naikatini 08/2-18, 16 Apr. 2008, Det. M. von Konrat & J. Braggins.

Zoopsis liukiensis is known from S Japan, S China, Philippines, Malay Peninsula, Sumatra, Java, Borneo, New Guinea, Queensland, Vanuatu, and Samoa (Piippo 1984).

Extended distribution records

Distribution is extended by reporting new islands within Fiji for the following 39 taxa.

49. *Acrolejeunea pycnoclada* (Taylor) Schiffn., in Engler & Prantl, Die natürlichen Pflanzenfamilien 1(3): 128 (1895)

Basionym: *Ptychanthus pycnocladus* Taylor, London Journal of Botany 5: 385 (1846)

Type citation: Malaysia, "On bark. Malacca. Hook. Herb."

Acrolejeunea pycnoclada subsp. *pycnoclada*

Illustration: Gradstein et al. (2002: 8, fig. 3).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/U, TA.

Acrolejeunea pycnoclada subsp. *pycnoclada* is a new report for the island of Kadavu. This species has a paleotropical distribution (Piippo 1994). Det. A. Sass-Gyarmati.

50. *Archilejeunea planiuscula* (Mitt.) Steph., Species Hepaticarum 4: 731 (1911)

Basionym: *Lejeunea planiuscula* Mitt., Journal of the Proceedings of the Linnean Society. Botany 5: 111 (1860) [1861]

Type citation: Burma, "Pegu ad Rangoon, inter *L. ungulatae* et *Meteorii squarrosi* caespites, M'Clelland".

Illustration: Thiers & Gradstein (1989: 9, fig. 1; Gradstein et al. (2002: 12, fig. 5).

Specimens examined: Kadavu Island: S. & T. Pócs 03310/D. Taveuni Island: S. & T. Pócs 03282/P. Det. A. Sass-Gyarmati.

Archilejeunea planiuscula is a new report for the islands of Kadavu and Taveuni. This species is known from many localities in the Indo-Pacific region (Sass-Gyarmati 2003).

51. *Caudalejeunea reniloba* (Gottsche) Steph., Species Hepaticarum 5: 16 (1912)

Basionym: *Phragmicoma reniloba* Gottsche, Synopsis Hepaticarum 3: 301 (1845).

Type citation: Indonesia, Java, Banten, *Blume s.n.* (G, lectotype designated by Thiers & Gradstein 1989).

Illustration: Gradstein et al. (2002: 19, fig. 9).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/F, BP. Det. A. Sass-Gyarmati.

Caudalejeunea reniloba is a new report for the island of Taveuni. It is widespread in tropical regions, including Oceania and Asia (Zhu & So 2001) Philippines, New Guinea, Indonesia, Oceania, Mascarenes, and Australia (northern Queensland) Sass-Gyarmati (2002).

52. *Ceratolejeunea belangeriana* (Gottsche) Steph., Species Hepaticarum 5: 396 (1913)

Basionym: *Lejeunea belangeriana* Gottsche, Synopsis Hepaticarum 3: 398 (1845)

Type citation: Mauritius, "Insula Franciae (*Belanger* in Hb L.)".

Illustration: Bonner (1953: 169, fig. 8).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/AP.

Ceratolejeunea belangeriana is a new report for the island of Kadavu. This species has a paleotropical distribution (Piippo 1994).

53. *Cheilolejeunea ceylanica* (Gottsche) R.M.Schust. et Kachroo in Kachroo & Schuster, Journal of the Linnean Society, Botany 56: 509 (1961)

Basionym: *Lejeunea ceylanica* Gottsche, Synopsis Hepaticarum 3: 359 (1845)

Type citation: Sri Lanka, "Insula Ceylon. Inter Radulam javanicam cum Lej. Lindenbergi (ex Hb. Hk.) inveni".

Illustration: Zhu & So (2001: 118, fig. 47).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/DQ. Kadavu Island: S. & T. 03304/K.

Cheilolejeunea ceylanica is a new report for the islands of Taveuni and Kadavu. This species has a paleotropical distribution (Piippo 1994).

54. *Cheilolejeunea intertexta* (Lindenb.) Steph., Bulletin de l'Herbier Boissier, sér. 1 5: 79 (1897)

Basionym: *Lejeunea intertexta* Lindenb., Synopsis Hepaticarum 3: 379 (1845)

Type citation: Karolinen "in Ualan, Ulleay et Lugnor Insul. Carol." leg. *Merteus*, Lindenb. hep. 6653/a, c. per + ♂ (Lectotype: W, designated by Grolle 1979).

Illustration: Mizutani (1982: 171, fig. 9).

Specimens examined: Kadavu Island: S. & T. Pócs 03303/A. Taveuni Island: S. & T. Pócs 03276/C, 03283/L, 03285/E, 03287/A, C, E, 03294/E.

Cheilolejeunea intertexta is a new report for the island of Kadavu. This species has a paleotropical distribution (Piippo 1994).

55. *Cheilolejeunea trapezia* (Nees) R.M.Schust. et Kachroo, Journal of the Hattori Botanical Laboratory 24: 282 (1961)

Basionym: *Jungermannia trapezia* Nees, Enumeratio Plantarum Cryptogamicarum Javae: 41 (1830)

Type citation: Indonesia. Java, "in Collemate bullato semcl inventa, absque fructificatione".

Illustration: Mizutani (1980: 328, fig. 5 as *C. longiloba*); Zhu & So (2001: 120, fig. 48, as *C. imbricata*); Stephani (1985: 001792) (as *Cheilolejeunea inaequitexta*).

Specimens examined: Taveuni Island: S. & T. Pócs 03293/V. Kadavu Island: S. & T. Pócs 03293/V.

Zhu & Grolle (2004) studied *Cheilolejeunea trapezia* in detail, noting that it was the correct name for a species commonly referred to as *C. imbricata* (Nees) S.Hatt. Zhu et al. (2002) stated that *C. longiloba* Steph. ex G. Hoffm. is also synonym of *C. trapezia*. Zhu & Grolle (2004) stated *C. trapezia* was a highly variable species and noted its main characters. It is a widely distributed in tropical and subtropical regions in Asia and Oceania. *Cheilolejeunea trapezia* is a new report for the islands of Taveuni and Kadavu.

56. *Cheilolejeunea trifaria* (Reinw., Blume et Nees) Mizut., Journal of the Hattori Botanical Laboratory 27: 132 (1964)

Fig. 4d

Basionym: *Jungermannia trifaria* Reinw., Blume et Nees, Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemeredes sive Observationes Historias et Experimenta 12: 226 (1825)

Type citation: Indonesia. Java, "ad terram. caespitosa. *Blume*. V. c. cal."

Illustration: Mizutani (1982: 169, fig. 8).

Specimen examined: Kadavu Island: 03305/C, 03300/AU, 03307/K, DB.

Cheilolejeunea trifaria is a new report for the island of Kadavu. This species is widely distributed from tropical Africa to the Indomalaysian and Australasian regions. Piippo (1994) noted the taxon as a transpacific species.

57. *Cololejeunea ceatocarpa* (Ångstr.) Steph., Bulletin de l'Herbier Boissier, sér. 1 5: 842 (1897)

Basionym: *Lejeunea ceatocarpa* Ångstr., Öfversigt af Förhandlingar: Kongl. Svenska Vetenskaps-Akademien 29(4): 27 (1872) [1873]

Type citation: Hawaii. Honolulu, "in caulibus foliisque Cryptopodii bartramioides".

Illustration: Tixier (1985: 269, fig. 44).

Specimens examined: Taveuni Island: S. & T. Pócs 03284/L.

Cololejeunea ceatocarpa is a new report for the island of Taveuni. Recorded elsewhere from Réunion, Bangladesh, Vietnam, New Caledonia, Fiji, Tonga, and Hawaii (cf. ELPT database).

58. *Cololejeunea cordiflora* Steph., Hedwigia 34: 246 (1895)

Type citation: New Caledonia, "(*Balansa* 3694) Herb. Bescherelle".

Illustration: Zhu & So (2001: 242, fig. 93).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/AZ, 03281/AB, 03282/BB, 03285/BA, 03286/AF, 03288/CU, CK. Viti Levu Island: S. & T. Pócs 03252/BK, 03256/O, 03258/E, 03261/BM, BN.

Cololejeunea cordiflora is a new report for the islands of Taveuni and Viti Levu. The species is possibly new to Fiji Islands, although probably all previous records of *C. goebelii* refer to this species, see comments by Pócs & Piippo (2011).

59. *Cololejeunea haskarliana* (Lehm. & Lindenb.) Schiffn., *Conspectus Hepaticarum Archipelagi Indici*: 244 (1898)

Basionym: *Lejeunea haskarliana* Lehm. & Lindenb. *Novarum et Minus Cognitarum Stirpium Pugillus* 8: 26. 1844.

Type citation: Java, "Java insula, ubi in aliis Jumngermanniiis repentem legit cl. Haskarl".

Cololejeunea haskarliana var. *haskarliana*

Illustration: Benedix (1953: 134, t.18, 19a-b); Zhu & So (2001: 323, fig. 121).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/BD, BE, BY.

Cololejeunea haskarliana var. *haskarliana* is a new report for the island of Taveuni. *Cololejeunea haskarliana* is distributed from the Seychelles and India to Japan, Australia and to New Caledonia (Pócs & Streimann 2006).

60. *Cololejeunea obliqua* (Nees et Mont.) Schiffn., *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 23: 586 (1897)

Basionym: *Lejeunea obliqua* Nees et Mont., *Annales des Sciences Naturelles; Botanique, sér. 2* 19: 264 (1843)

Type citation: French Guyana, "[cum *L. oxyphylla*] in foliis circa Cayennam á cl. Leprieur lecta".

Illustration: Tixier (1985: 293, fig. 57, as *C. scabriflora*).

Species examined: Taveuni Island: 03279/AX, 03288/BNB, BC.

Cololejeunea obliqua is a new report for the island of Taveuni. This is a widespread pantropical species (Zhu & So 2001).

61. *Colura acroloba* (Mont. ex Steph.) Ast, *Revue Bryologique et Lichénologique* 22: 297 (1953)

Basionym: *Lejeunea acroloba* Mont. ex Steph., *Hedwigia* 29: 97 (1890)

Type citation: Philippines [Luzon]. "Manila". Collector unknown. Holotype: W (Lindenb. Hepat. 6872) Lindenberg. (Zhu & So 2001).

Illustration: Zhu & So (2001: 230, fig. 88).

Specimens examined: Viti Levu Island: S. & T. Pócs 03261, BK, BO.

Colura acroloba is a new report for the island of Viti Levu. Piippo (1994) noted the taxon as an Asian-Oceanian-Australian species.

62. *Diplasiolejeunea cavifolia* Steph., *Species Hepaticarum* 5: 918 (1916)

Basionym: *Lejeunea cavifolia* Steph., *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 8: 89. 1886 [1887]

Type citation: Africa. Occid. Insula St. Thomé, Mt Caffé, 700 m, Sept. 1885, A. Moller 7a. (Zhu & So 2001).

Illustration: Mizutani (1973: 198, fig. IV; 1973: 200, fig. V, as *H. riddleana*).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/BK.

Diplasiolejeunea cavifolia is a new report for the island of Taveuni. Piippo (1994) noted the taxon was a transpacific species.

63. *Harpalejeunea filicuspis* (Steph.) Mizut., Journal of the Hattori Botanical Laboratory 37: 197 (1973)

Basionym: *Drepanolejeunea filicuspis* Steph., Species Hepaticarum 5: 344 (1913)

Type citation: Papua New Guinea, “Nova Guinea, Samarai”.

Illustration: Piippo (1985: 139, fig. 5 a-e).

Specimens examined: Kadavu Island: S. & T. Pócs 03303/AR, 03304/A. Taveuni Island: S. & T. Pócs 03289/BK pp. Viti Levu Island: T Pócs 08032/N.

Harpalejeunea filicuspis is a new report for the islands of Kadavu, Taveuni, and Viti Levu. Piippo (1994) noted the taxon was an Asian-Oceanian-Australian species.

64. *Lejeunea discreta* Lindenb., Synopsis Hepaticarum 3: 361 (1845)

Type citation: Indonesia. Java, “inter *L. thymifoliam* β *discretam* (hb. N[ees])”.

Illustration: Mizutani (1970: 237, fig. VII).

Specimens examined: Taveuni Island: S. & T. Pócs 03289/CA.

Lejeunea discreta is a new report for the island of Taveuni; *L. discreta* is a widely distributed Indomalaysian species (Pócs et al. 2007).

65. *Lejeunea flava* (Sw.) Nees, Naturgeschichte der Europäischen Lebermoose 3: 277 (1838)

Basionym: *Jungermannia flava* Sw., Nova Genera et Species Plantarum: 144 (1788)

Type citation: Jamaica. Swartz s.n. (Lectotype designated by Grolle 1976: UPS-Thunb.-25916, Isolectotype: BM, S).

Illustration: Schuster (1980: 959, fig. 689).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/BZ.

Lejeunea flava is a new report for the island of Taveuni. *Lejeunea flava* is a widespread pantropical species (Eggers 2004).

66. *Lejeunea micholitzii* Mizut., Journal of the Hattori Botanical Laboratory 33: 236 (1970)

nom. nov. pro *Hygrolejeunea parvisaccata* Steph., Species Hepaticarum 5: 567. 1914

Type citation: Luzon Benguet, 1884 *Micholitz s.n.* (Holotype: G-24700).

Illustration: Mizutani (1970: 237, fig. VI).

Specimens examined: Kadavu Island: S. & T. Pócs 03309/L. Taveuni Island: S. & T. Pócs 03279/BF, 03282/G, 03288/DC, 03289/BV, BW.

Lejeunea micholitzii is a new report for the islands of Kadavu and Taveuni. Recorded elsewhere from Sri Lanka, Vietnam, Borneo, Java, Philippines, New Caledonia, New Guinea Vanuatu and Easter Is. (cf. ELPT database).

67. *Lejeunea sordida* (Nees) Nees, Naturgeschichte der Europäischen Lebermoose 3: 278 (1838)

Basionym: *Jungermannia sordida* Nees, Enumeratio Plantarum Cryptogamicarum Javae: 41 (1830)

Type citation: Indonesia. Java, “Inter muscos et Jungermanniae terrestres sparsim; in tumulis Baduorum sanctis; inter alias Jungermannias caespitosa, haud spernenda copia”.

Illustration: Mizutani (1970: 243, fig. XII).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/AP, 03304/BA, 03305/F, 03306/J. Taveuni Island: S. & T. Pócs 03282/U.

Lejeunea sordida is a new report for the islands of Kadavu and Taveuni. Recorded elsewhere from Nicobar Is., Thailand, Borneo, Java, Moluccas, the Philippines, Sulawesi, Bismarck Archipelago, New Guinea, Solomon Is., Queensland, New Caledonia, Samoa, Caroline Is., and the Marianas (cf. ELPT database).

68. *Lejeunea umbilicata* (Nees) Nees, Novorum Actorum Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum 19 suppl. 1: 472 (1843)

Basionym: *Jungermannia umbilicata* Nees, Enumeratio plantarum cryptogamicarum Javae: 42. (1830)

Type citation: Java, “Inter muscos Javae frequens, saepe fructifera invenitur”.

Illustration: Mizutani (1970: 23, fig. V).

Specimens examined: Taveuni Island: S. & T. Pócs 03278/O, V, 03279/H, AG, 03286/L.

Lejeunea umbilicata is a new report for the island Taveuni. This species has a Southeast Asian and Pacific distribution, including Borneo, Java, Philippines, Sumatra, New Guinea, New Caledonia, Samoa, Caroline Is., and the Marianas (cf. ELPT database).

69. *Lepicolea rara* (Steph.) Grolle, Nova Hedwigia 16: 152 (1968)

Basionym: *Lepidozia rara* Steph., Species Hepaticarum 3: 618 (1909)

Type citation: Indonesia. “Java (leg.?)”.

Illustration: Piippo (1984: 23, fig. 2).

Specimens examined: Taveuni Island: S. & T. Pócs 03279/S.

Lepicolea rara is a new report for the island of Taveuni. It has been recorded elsewhere from Thailand, Malay Peninsula, Sumatra, Borneo, Philippines, Sulawesi, Moluccas, Java, New Guinea, Solomon Islands, Society Is, and Chile (cf. ELPT database).

70. *Lepidolejeunea bidentula* (Steph.) R.M.Schust., Phytologia 45: 425 (1980)

Basionym: *Lejeunea bidentula* Steph., Handel-Mazetti, Symbolae Sinicae 5: 51 (1930)

Type citation: Papua New Guinea “Fly River branch, leg. W. Bäuerlen, 1885”.

Illustration: Piippo (1986: 22-23, figs 4-5).

Specimens examined: Kadavu Island: S. & T. Pócs 03301/G, 03307/C. Taveuni Island: S. & T. Pócs 03288/Z.

Lepidolejeunea bidentula is a new report for the islands of Kadavu, Taveuni, and Viti Levu. This species has a paleotropical distribution (Piippo 1994).

71. *Lepidolejeunea graeffei* (J.B.Jack et Steph.) R.M.Schust., *Phytologia* 45: 425 (1980)

Basionym: *Archilejeunea graeffei* J.B.Jack et Steph., *Botanisches Centralblatt* 60: 104 (1894)

Type citation: Fiji. Viti-Ovalau, in summo monte Tana-lailai, 1864 *Graeffe* (Lectotype designated by Piippo 1986: G-22718 c. per., provisionally selected by Grolle 1983 in sched., isolectotypes: BM, G-14014, G-14015) fide Piippo 1986b.

Illustration: Piippo (1986: 31, fig. 8).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/BT.

Lepidolejeunea graeffei is a new report for the island of Taveuni. Piippo (1994) reports this taxon as an Asian-Oceanian species; with records from Philippines, New Guinea, Bismarck Archipelago, Solomon Islands, Vanuatu, Fiji, Samoa, and Caroline Is (cf. ELPT database).

72. *Lepidolejeunea integristipula* (J.B.Jack et Steph.) R.M.Schust., *Phytologia* 45: 425 (1980)

Basionym: *Pycnolejeunea integristipula* J.B.Jack et Steph., *Botanisches Centralblatt* 60: 107 (1894)

Type citation: Fiji, "Viti-Ovalau, in monte Tana-lailai. Pauca specimina Taxi-Lejeuneam umbilicatum perrepentia".

Illustration: Piippo (1986: 35, fig. 9).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/S, 03303/K, 03305/B, 03307/AC. Taveuni Island: S. & T. Pócs 03283/Q, 03289/BU.

Lepidolejeunea integristipula is a new report for the islands of Kadavu and Taveuni. Piippo (1994) reports this taxon as an Asian-Oceanian species; with records from Borneo, Philippines, Java, New Guinea, Solomon Islands, Queensland, Fiji, Samoa, and Caroline Is (cf. ELPT database).

73. *Lopholejeunea eulopha* (Taylor) Schiffn., *Nat. Pflanzenfam.* [Engler & Prantl]: 129 (1893)

Basionym: *Lejeunea eulopha* Taylor, *London Journal of Botany* 5: 391 (1846)

Type citation: Pacific Is., Nightingale s.n. Holotype: FH; Isotype: NY. (Gradstein et al. 2002).

Illustration: Thiers & Gradstein (1989: 26, fig. 8).

Specimens examined: Kadavu Island: S. & T. Pócs 03304/BB. Taveuni Island: S. & T. Pócs 0303279/P. Det. A. Sass-Gyarmati.

Lopholejeunea eulopha is a new report for the island of Kadavu. The species is Palaeotropical, widely distributed in Asia and Africa, and rather frequent in Queensland (Australia) (Sass-Gyarmati 2002).

74. *Lopholejeunea nigricans* (Lindenb.) Schiffn., *Conspectus Hepaticarum Archipelagi Indici*: 293 (1898)

Basionym: *Lejeunea nigricans* Lindenb., *Synopsis Hepaticarum* 3: 316 (1845)

Type citation: Indonesia. Java, unknown coll. Holotype: W-Lindenb. (Gradstein et al. 2002); Isotype: G (Gradstein et al. 2002; Zhu & Gradstein 2005).

Illustration: Gradstein et al. (2002: 34, fig.19).

Specimens examined: Kadavu Island: S. & T. Pócs 03330/AS. Taveuni Island: S. & T. Pócs 0303278/J, 03285/M, 03288/AE, 03293/Y, 03299/M, T. Pócs 08012/AB. Det. A. Sass-Gyarmati.

Lopholejeunea nigricans is a new report for the islands of Kadavu and Taveuni. This species has a pantropical distribution (Piippo 1994).

75. *Lopholejeunea subfusca* (Nees) Schiffn., *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 23: 593 (1897)

Basionym: *Jungermannia subfusca* Nees, *Enumeratio Plantarum Cryptogamicarum Javae*: 36 (1830)

Type citation: Indonesia. Java, Blume s.n. Holotype: W; Isotype S-B29157 (Gradstein et al. 2002; Zhu & Gradstein 2005).

Illustration: Thiers & Gradstein (1989: 40, fig. 15).

Specimens examined: Kadavu Island: S. & T. Pócs 03301/F, 03310/C. Taveuni Island: S. & T. Pócs 03279/P, 03282/AG, 03285/B, 03279/P, 03282/AG, 03285/B. Det. A. Sass-Gyarmati.

Lopholejeunea subfusca is a new report for the islands of Kadavu and Taveuni. This is a widespread pantropical species (Sass-Gyarmati 2002).

76. *Mastigolejeunea calcarata* (Steph.) Verd., *Blumea* 1: 218, 230 (1934)

Basionym: *Archilejeunea calcarata* Steph., *Species Hepaticarum* 4: 724 (1911)

Type citation: Fiji. "Viti, Ovalau (Seemann)": NY sub *Phragmicoma calcarata* Mitt.

Illustration: Thiers & Gradstein (1989: 45, fig. 16).

Specimens examined: Kadavu Island: S. & T. Pócs 03304/M, 03305/K, 03309/F. Det. A. Sass-Gyarmati.

Mastigolejeunea calcarata is a new report for the island of Kadavu. Thiers & Gradstein (1989) also reported this taxon from Australia.

77. *Metalejeunea crassitexta* (J.B.Jack et Steph.) Pócs, comb. nov.

Basionym: *Microlejeunea crassitexta* J.B.Jack et Steph., *Botanisches Centralblatt* 60: 106 (1894)

Type citation: Fiji. "Viti-Ovalau in monte Tana-Lailai", 1864, leg. Graeffe.

This species, purportedly an endemic to the Fiji Islands, was previously known

only from the sterile type material. It shares many characters with *Metalejeunea cucullata* (Reinw. et al.) Grolle. We have found on the specimen from Kadavu Island well-developed perichaetia with *Pycnolejeunea*-type subgynoecial innovations. The pycnolejeuneoid innovation is a critical character of *Metalejeunea* that distinguishes it from *Microlejeunea* which has lejeuneoid innovations. Thus, we hereby transfer *Microlejeunea crassitexta* J.B. Jack et Steph into *Metalejeunea*. In addition, this taxon has no basal ocelli, which is a character of *Metalejeunea*, in contrast to *Microlejeunea*, where basal ocelli regularly occur. *Metalejeunea winkleri* Zhu & Grolle (2002), another species with small lobe cells might be conspecific, if the Fijian taxon has flat perianths.

Illustration: Miller, Bonner & Bischler (1963: 4, tab. 131, fig. a-e, as *Microlejeunea crassitexta*).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/DR. Kadavu Island: S. & T. Pócs 03303/AS.

Metalejeunea crassitexta is a new report for the islands of Taveuni and Kadavu. It is previously known from Ovalau and Viti Levu (Jack & Stephani 1894).

78. *Metalejeunea cucullata* (Reinw., Blume et Nees) Grolle, Bryophytorum Bibliotheca 48: 100 (1995)

Basionym: *Jungermannia cucullata* Reinw., Blume et Nees, Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemerides sive Observationes Historias et Experimenta 12: 227 (1825)

Type citation: Indonesia. Java, "in lava insula ad terram. Blume. V. c. fr."

Illustration: Zhu & So (2001: 167, fig. 65).

Specimens examined: Kadavu Island: S. & T. Pócs 03307/N.

Metalejeunea cucullata is a new report for the island of Kadavu. *Metalejeunea cucullata* is a pantropical species (Zhu & Grolle 2002).

79. *Metzgeria furcata* (L.) Nees, Naturgeschichte der Europäischen Lebermoose 3: 485. 1838)

Basionym: *Jungermannia furcata* L., Species Plantarum: 1136 (1753)

Type citation: Lectotype (Grolle & So 2002): [icon.] "Lichenastrum tenuifolium, furcatum, thecis globosis pilosis" in Dillenius, Historia Muscorum t. 74, f. 45 A-C, F-G (excl. D-E, see Lindberg 1878: 32, 36). 1742 "1741". Epitype (Grolle & So 2002): OXF (hb. Dillenius f.)

Illustration: Schuster (1992: 680, fig. 886).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/D, AC.

Metzgeria furcata is a new report for the island of Taveuni. The treatment of Australasian and Pacific *Metzgeria* by So (2002) was followed in this determination. However, it is clear that *M. furcata* represents a group with a complex taxonomy. Recently, Fuselier et al. (2009), in a molecular phylogeny of Northern Hemisphere accessions concluded that *M. furcata*, has a wide disjunct distribution, with populations exhibiting extreme sex ratios, and harbours cryptic lineages.

80. *Phaeolejeunea amicorum* (Hürl.) Pócs, Fieldiana: Botany, n.s. 47: 140 (2008)

Basionym: *Phaeolejeunea etesseana* subsp. *amicorum* Hürl., Bauhinia 9: 263 (1991)

Type citation: Tonga, “mit anderen Lejeuneaceen auf Rinde eines Baums in mesophilen Primärwald, am Weg von Fuai zum Eastern Ridge („Eua)”, ca 130 m ü M. 9. XI. 1951, leg. H.H. T837 (Holotype: Z, isotypes: G. hb. Hürlimann).

Illustration: Pócs (2008a: 141–142, figs 1–2).

Specimens examined: Viti Levu Island: T. Pócs 03275/G, 08032/B.

Phaeolejeunea amicorum is a new report for the island of Viti Levu. This species had previously been recorded in Fiji (Taveuni and Kadavu) by Pócs (2008a). Prior to that it was only known from Tonga (Hürlimann 1991).

81. *Plagiochilium oppositum* (Reinw., Blume et Nees) S.Hatt., Biosphaera 1: 7 (1947)

Basionym: *Jungermannia opposita* Reinw., Blume et Nees, Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemerides sive Observationes Historias et Experimenta 12: 236 (1825)

Type citation: Indonesia. Java, “Inter Hypna et Jungermannias, v. .c. I. scorpioidem, lavae insulae invenit Blume. V. s. fr.”

Illustration: Inoue (1964: 62, fig. VI).

Specimens examined: Viti Levu Island: T. Pócs 08023/A.

Plagiochilium oppositum is a new report for the island of Viti Levu. It is recorded elsewhere from Guangxi, Hainan, Japan, Taiwan, India, Sri Lanka, Burma (Myanmar), Thailand, Vietnam, Borneo, Java, Lesser Sunda Is., Philippines, Sulawesi, Sumatra, New Guinea, Solomons, Queensland, New Caledonia, Samoa, and *Vanuatu* (cf. ELPT database).

82. *Ptychanthus striatus* (Lehm. et Lindenb.) Nees, Naturgeschichte der Europäischen Lebermoose 3: 212 (1838)

Basionym: *Jungermannia striata* Lehm. et Lindenb., Novarum et Minus Cognitarum Stirpium Pugillus 4: 16 (1832)

Type citation: Nepal. “in Nepalia”.

Illustration: Thiers & Gradstein (1989: 56, fig. 21); Gradstein et al. (2002: 57, fig. 35).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/O. Det. A. Sass-Gyarmati.

Ptychanthus striatus is a new report for the island of Taveuni. This species has a paleotropical distribution (Piippo 1994).

83. *Radula acuminata* Steph., Species Hepaticarum 4: 230 (1910)

Type citation: Vietnam. “Tonkin”, 18 Oct 1887, *B. Balansa s.n.*, herb. Paris 1890. Holotype: G-35916; Isotype: G-35915, PC (So 2006).

Illustration: Yamada (1979: 287, fig. 47).

Specimens examined: Taveuni Island: S. & T. Pócs 0379/BA.

Radula acuminata is a new report for the island of Taveuni. The species has a wide

distribution including China, Japan, Sri Lanka, Cambodia, Thailand, Vietnam, Borneo, Java, New Guinea and New Caledonia (cf. ELPT database).

84. *Radula multiflora* Gottsche ex Schiffn., Forschungsreise S.M.S. 'Gazelle' 4, Botanik: 20 (1889) [1890]

Type citation: New Guinea. Bismarck Archip., New Hannover Island, 20 Jul 1875, Gazelle Exped., F. C. Natonann s.n. as *R. javanica* (Lectotype designated by Castle 1966: FH-60323, isolectotypes: W-5145, YU). New Ireland. ins. '... Neu-Mecklenburg.' 19 Aug 1875, F. C. Na.

Illustration: Renner & de Lange (2009: 3, fig. 1, 2).

Specimens examined: Taveuni Island: S. & T. Pócs 03288/AH, 03293/A, Z, 03294/B, 03295/F, 03298/T. Kadavu Island: S. & T. Pócs 03303/X.

Radula multiflora is a new report for the islands of Taveuni and Kadavu. This species is found throughout SE Asia and the western pacific, from Sumatra to New Caledonia, Samoa and Tahiti (Yamada 1979).

85. *Radula protensa* Lindenb., Botanische Zeitung. Berlin 6: 462 (1848)

Type citation: Indonesia. Java. Zollinger 577. Holotype: BM; Isotype: G, P (Zhu & So 2001).

Illustration: Yamada (1979: 293, fig. 51).

Specimens examined: Taveuni Island: S. & T. Pócs 03286/AB.

Radula protensa is a new report for the island of Taveuni. It has been recorded elsewhere from India, Sumatra, Borneo, Philippines, Java, New Guinea, and Society Is (cf. ELPT database).

86. *Spruceanthus polymorphus* (Sande Lac.) Verd., Annales Bryologici, suppl. 4: 155 (1934)

Basionym: *Phragmicoma polymorpha* Sande Lac., Nederlandsch Kruidkundig Archief. Verslagen en Mededelingen der Nederlandsche Botanische Vereeniging 3: 420 (1854) [1855]

Type citation: Indonesia. Java, leg. Junghuhn. Source: IH online.

Illustration: Gradstein et al. (2002: 69, fig. 43).

Specimens examined: Kadavu Island: S. & T. Pócs 03300/AO. Det. A. Sass-Gyarmati.

Spruceanthus polymorphus is a new report for the island of Kadavu. This species has a broad distribution throughout southeast Asia and the Pacific, including China, Japan, India, Indonesia, New Guinea, Philippines, Australia, and islands throughout the South Pacific (Zhu & So 1999). Gradstein et al. (2002) discussed the relationship between *Spruceanthus* and *Archilejeunea*, where some authors have placed it, yet they retained the species under *Spruceanthus* until the oil bodies could be studied on living material. This will be imperative in future collections in Fiji.

87. *Thysananthus spathulistipus* (Reinw., Blume et Nees) Lindenb., Synopsis Hepaticarum 2: 287 (1845)

Basionym: *Jungermannia spathulistipa* Reinw., Blume et Nees, Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum Exhibentia Ephemerides sive Observationes Historias et Experimenta 12: 212 (1825)

Type citation: Indonesia. Java, "in montibus (v. c. Monte Leback) Provinciae Bantam Iavae insula. Blume. V. c. cal."

Illustration: Thiers & Gradstein (1989: 74, fig. 28); Gradstein et al. (2002: 81, fig. 51).

Specimens examined: Kadavu Island: S. & T. Pócs 03304/M. Det. A. Sass-Gyarmati.

Thysananthus spathulistipus is a new report for the island of Kadavu. This is a pantropical species widely distributed in Africa, Southeast Asia and Oceania (Sass-Gyarmati 2003).

Acknowledgments

The financial assistance of the National Geographic Committee for Research and Exploration (Grant No. 8247-07), GBIF Seed Money Award No. 2007/41, and the Field Museum Woman's Board, Field of Dreams Program are warmly acknowledged. The first author was financed in 2003 by the AMFK (Hungarian Ministry of Education) and by ALCOA Foundations (USA). He is also thankful for his wife, Sarolta Pócs's field assistance. The authors also are especially grateful to Anders Hagborg and Lars Söderström of the Early Land Plants Today (ELPT) project for their comments and corrections as well as access to their databases. We also express our gratitude to Matt Renner for some useful comments as well John J. Engel and Endymion Cooper for useful discussion on *Telaranea*. We warmly thank the valuable assistance, guidance, and logistical support provided by the Suva Herbarium, support in the field by Jone Navuso.

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Manuscript received 20 January 2011, accepted 22 August 2011

Appendix 1: List of localities

The abbreviated collection data provided in the specimen examined sections can be cross referenced below with the full detailed collection data.

03252: W part of VITI LEVU Island, at the N edge of NAUSORI Highlands, ENE of NAUSORI village, at 600–620 m alt. S 17°49.033', E 177°37.338–38.046'. Secondary submontane rainforest with moderate number of epiphytes incl. epiphylls. 18. Aug. 2003.

03253: W part of VITI LEVU Island, at the N edge of NAUSORI Highlands, W of BUKUYA village, at 570 m alt. S 17°48.173', E 127°39.675'. Submontane rainforest, streamside type with higher number of epiphytes. 18. Aug. 2003.

03255: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. Tambua Sands Beach Resort E of NAMADA village, at 3–5 m alt. S 18°11.472', E 177°37.582'. Coconut stand and garden trees. 19. Aug. 2003.

03256: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. 1.2 km N of KOROLEVU, at 34 m alt. S 18°11.025', E 177°41.914'. Lowland rainforest along streamside in a side valley, rich in epiphytes, incl. epiphylls. 19. Aug. 2003

03258: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. In the narrow valley below BIASEVU ('Savu Na Mate Laya') waterfall, 2.5 km N of KOROLEVU. S 18°11–12', E 177°42'. Wet lowland rainforest on volcanic ground. 19. Aug. 2003.

03259: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. PACIFIC HARBOUR township area, at 2–3 m alt. S 18°15.041', E 178°03.913'. On

garden and on roadside trees. Among lagunes, on the place of former mangrove and coastal forest vegetation. 20. Aug. 2003.

03260: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. Between NAVULA and LOMBAU villages, along the Queens Road, at 2–3 m alt. S 18°12.483', E 178°10.813'. 10–12 m tall *Pandanus tectorius* dominated swamp forest adjoining mangroves along lagunes on the coastal plain. 20. Aug. 2003.

03261: Southern coast of VITI LEVU Island ('Coral Coast') in the high rainfall area. Near NABUKAVESI village, 10 km N of LOMBAU, at 30–60 m alt. S 18°07–09', E 178°13.23–13.08'. Primary, wet lowland rainforest, on rugged volcanic hills, partly along streamlet. 20. Aug. 2003.

03262: North-eastern coast of VITI LEVU Island, at NATALEIRA eco-village. On the foothills of mountains behind the village, at 50–60 m alt. S 17°35.888', E 178°28.965'. Mesic rainforest on acidic, ferralitic soil. 21. Aug. 2003.

03263: North-eastern coast of VITI LEVU Island, near NAYARUTOKA village, 0–2 m. S 17°33.339', E 178°24.746'. 10–12 m tall mangrove forest. 22. Aug. 2003.

03264: North-eastern coast of VITI LEVU Island, in the dry evergreen forest belt, SSE of NAMARAI village, at 50–60 m alt. S 17°32.844', E 178°22.118'. Riverine (gallery) forest and shady volcanic tuff cliffs. 22. Aug. 2003.

03267: North coast of VITI LEVU Island. 15 km WSW of RAKIRAKI town, at 16–25 m alt. S 17°23.608', E 178°15.408'. Dry semi-deciduous forest on volcanic breccia rocks. 22. Aug. 2003.

03269: Northern central part of VITI LEVU Island. SW ridge of Mt TAMANIVI (Mt Victoria), at 800 m alt, 3 km S of NAVAI, 28 km on the road from Tavua. S 17°40.410', E 177°59.363'. Mossy montane rainforest (cloud forest). 23. Aug. 2003.

03271: Central VITI LEVU, below the NE escarpment of RAIRAIMATUKU Plateau, 1 km NW of NAQELEWAI village, in the NABOUBUCO River Valley, at 250 m alt. S 17°42.650', E 178°04.950'. Wet lowland rainforest rich in epiphylls. 24. Aug. 2003.

03273: Central VITI LEVU, NE edge of RAIRAIMATUKU Plateau, above NAQELEWAI village, S from 'Barclay's Point', at 855–945 m alt. S 17°44.208–264', E 178°03.300–573'. Montane mossy (cloud) forest. 24. Aug. 2003.

03274: Central VITI LEVU, on the ridge of RAIRAIMATUKU Plateau 10 km SSE of NAVAI. S 17°43.503', E 178°02.252'. Mossy elfin forest (cloud forest) built up mostly by *Cyathea* sp. and by the 3–4 m tall *Alpinia boia*, at 990–1010 m alt. 24. Aug. 2003.

03275: Central VITI LEVU, at the N end of RAIRAIMATUKU Plateau, along the road, 3 km S of NAVAI village, at 820 m alt. S 17°38.857', E 177°59.149'. At a phallus shaped volcanic conglomerate rock, surrounded by mesic rainforest. 24. Aug. 2003.

03276: SE part of VITI LEVU Island. COLO-I-SUVA 10 km NNE of SUVA town, in the garden or Raintree Lodge, at 185 m alt. S 18°03.498', E 178°27.44'. Secondary wet lowland rainforest (by 4240 mm annual rainfall). 25. Aug. 2003.

03278: Central part of TAVEUNI Island. DES VOEUX Peak. S 16°50.638', W 179°57.991'. 1.5–2.5 m tall bush formed by a pachycaul Asteraceae on the summit ridge, at 1180–1194 m alt. 27. Aug. 2003.

- 03279:** Central part of TAVEUNI Island. NE side of DES VOEUX Peak, at 1040–1150 m alt. S 16°50.295–445', W 179°58.037–224'. 4–8 m tall mossy elfin forest, very rich in epiphytes. 27. Aug. 2003.
- 03280:** Central part of TAVEUNI Island. NE side of DES VOEUX Peak, at 960 m alt. S 16°50.220, W 179°58.369'. 10–20 m tall, mossy montane rainforest. 27. Aug. 2003.
- 03281:** NE part of TAVEUNI Island. On the ridge between QELENI and WELAGI villages, at 500 m alt. S 16°45.285', W 179°54.306'. Submontane rainforest with many tree-ferns along brook. 27. Aug. 2003.
- 03282:** E side of TAVEUNI Island. Around the 1st TAVORO Waterfalls, above KOROVOU (BOUMA) village, at 10–100 m alt. S 16°49.608–620', W 179°52.555–850'. Very wet lowland rainforest and woody cultivation, with many tree-ferns and epiphytes. 29. Aug. 2003.
- 03283:** LAVENA Beach along the SE coast of TAVEUNI Island at 1–3 m alt. S 16°52.261–491', W 179°52.162–755'. Coconut growth intermixed with the remnants of coastal bush and forest, formed by *Barringtonia asiatica*, *Pandanus* and *Hibiscus tiliaceus*. 30. Aug. 2003.
- 03284:** NABOUCANDRA Beach on the SE coast of TAVEUNI Island, W of LAVENA village. Degraded *Barringtonia* – *Hibiscus* coastal forest intercropped by coconut (*Cocos nucifera*), at 2–4 m alt. S 16°52.303', W 179°53.574'. 30. Aug. 2003.
- 03285:** WAINISARI Beach on the SE coast of TAVEUNI Island, between NABA village and the estuary of WAINIBAU Stream, at 4–10 m alt. S 16°52.322–386', W 179°53.270–864'. Rocky (volcanic) coastal forest with many tree-ferns, here and there intercropped by coconut (*Cocos nucifera*). 30. Aug. 2003.
- 03286:** WAINIBAU Stream valley on the SE coast of TAVEUNI Island, below the gorge of WAINIBAU Waterfalls, at 1–15 m altitude. S 16°51.950'–52.386', W 179°54.270–331'. Lowland rainforest. 30. Aug. 2003.
- 03287:** NEISOGO (NASELESELE) Point on the NE end of TAVEUNI Island opposite of the small VIUBANI Island, at 0.5–1.5 m altitude, S 16°41.964', W 179°51.895'. Coconut growth intermixed with coastal *Barringtonia* – *Hibiscus tiliaceus* bushes. 31. Aug. 2003.
- 03288:** Central part of TAVEUNI Island. Along the road from WAIRIKI to DES VOEUX Peak, on the NW slopes at 600–700 m alt. S 16°49.639–758', W 179°58.826–943'. Montane rainforest rich in epiphytes. 1. Sept. 2003.
- 03289:** Central part of TAVEUNI Island. Along the road from WAIRIKI to DES VOEUX Peak, on the NW slopes, at 715–750 m alt. S 16°49.831–915', W 179°58.643–731'. Mossy montane rain forest with transitions to elfin forest. 1. Sept. 2003.
- 03290:** NW coast in the SW part of TAVEUNI Island. Taveuni Estates above SAQULU, on the foothills of Mt ULUIGALAU, at 360 m alt. S 16°51.295', E 179°59.024'. Degraded submontane rainforests. 3. Sept. 2003.
- 03291:** SW end of TAVEUNI Island. Between Vuna Lagoon Lodge and VUNA village, at 0.5–3 m alt. S 16°58.141–212', E 179°53.405–4223'. Coastal bush dominated by *Barringtonia asiatica* and *Hibiscus tiliaceus*, with coconut on volcanic rocks. 4 and 7 Sept. 2003.

- 03292:** S tip of TAVEUNI Island. NE slope of Mt DELAIVUNA, at 120–170 m alt. S 16°59.458', E 179°55.201'. Somewhat disturbed, relatively dry lowland rainforest dominated by 20–30 m tall *Barringtonia edulis*. 4 Sept. 2003.
- 03293:** S tip of TAVEUNI Island. On the NE slopes and in the crater of the extinct TAVUYAGEA volcano, at 150–295 m altitude, S 16°59.660–662', E 179°55.296–360'. Relatively dry *Barringtonia edulis* dominated lowland rainforest on the outer slopes and wet rainforest with many epiphytes (incl. epiphylls) in the crater. 5. Sept. 2003.
- 03294:** S tip of TAVEUNI Island, Behind the 'BLOW HOLE' at 8–10 m alt. S 17°00.260', E 179°55.773'. *Pandanus tectorius* stand with transitions to coastal forest, on lava rocks. 6. Sept. 2003.
- 03295:** SSE coast of TAVEUNI Island, WSW of NAVAKA-WAU, at 8 m alt. S 17°00.151', E 179°55.926'. *Barringtonia asiatica* dominated coastal forest. 6 Sept. 2003.
- 03296:** SW part of TAVEUNI Island, on the foothills at the SW end of the central mountain range, between SALIALEVU and NAQARAWALU villages, at 100–200 m alt. S 16°57.934–58.598', E 179°57.431–678'. Wet, degraded lowland rainforest and coconut plantations. 6 Sept. 2003.
- 03297:** E side of TAVEUNI Island. Around the Ist TAVORO Waterfall, above KOROVOU (BOUMA) village, at 10–100 m alt. S 16°49.564–620', W 179°52.420–800'. Cultivated area and degraded lowland rainforest. 8. Sept. 2003.
- 03298:** E side of TAVEUNI Island. Around the IInd TAVORO Waterfall, above KOROVOU (BOUMA) village, at 120–150 m alt. S 16°49.640–680', W 179°52.960'–53.050'. Wet lowland rainforest, somewhat degraded. 8 Sept. 2003.
- 03299:** E side of TAVEUNI Island. Between the IInd and IIIrd TAVORO Waterfalls, above KOROVOU (BOUMA) village, at 150–160 m alt. S 16°49.564–620', W 179°52.420–800'. Very humid primary lowland rainforest, rich in epiphytes and epiphylls. 8. Sept. 2003.
- 03300:** Central part of KADAVU (Kandavu) Island. 2–3 km NNE of VUNISEA, along the Namara Road, on the slopes at 120–165 m alt. S 19°01.731–880', E 178°10.265–750'. Secondary lowland rainforest on lilac volcanic soil. 10. Sept. 2003.
- 03301:** Central part of KADAVU (Kandavu) Island. 2–3 km NNE of VUNISEA, along the Namara Road, in a valley below waterfall, at 110–150 m alt. S 19°01.826–923', E 178°775–815'. Less disturbed lowland rainforest along rocky streamlet. 10. Sept. 2003.
- 03302:** West part of KADAVU (Kandavu) Island. 2.5 km W of VUNISEA, on the north coast, at 1–20 m altitude. S 19°02.705', E 178°08.221'. Rocky, shady coastal forest dominated by *Barringtonia asiatica*, *Ficus* sp. and *Hibiscus tiliaceus*, with *Entada* liana on lava rocks and coastal bush with coconut and with *Scaevola* sp. on the coral sand of the beach. 11. Sept. 2003.
- 03303:** Central part of KADAVU (Kandavu) Island. On the coastal ridge, 0.5–1.5 km N of VUNISEA, at 40–80 m altitude, on lilac volcanic soil. S 19°02.390–529', E 178°09.554–608'. Dry evergreen microphyllous forest with emergent *Allocasuarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer. 12. Sept. 2003.
- 03304:** Western part of KADAVU (Kandavu) Island. 2 km NE of TAVUKI village, at 170–200 m altitude, on orange-red volcanic soil. S 19°03.829–04.102', E 178°07.771–921'.

Dry evergreen microphyllous forest with emergent *Allocasuarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer. 13. & 15. Sept. 2003.

03305: Western part of KADAVU (Kandavu) Island. 3 km NNE of TAVUKI village, on a ridge at 220–240 m altitude, on orange-red volcanic soil. S 19°03.621–678', E 178°07.743–844'. Dry evergreen microphyllous forest with emergent *Allocasuarina* trees, with transitions to mesic evergreen rain forest. 13. Sept. 2003.

03306: Western part of KADAVU (Kandavu) Island. 3.5 km NE of TAVUKI village, on the M slope and summit of KORONIQUALA Hill, at 250–370 m altitude. S 19°03.298–366', E 178°08.0.25–126'. Mesic submontane rainforest with tree-ferns, no epiphylls. 13 Sept. 2003.

03307: Central part of KADAVU (Kandavu) Island. On the ridge SE of VUNISEA telecom tower at 100–120 m altitude, on lilac volcanic soil. S 19°03.214–300', E 178°09.836–877'. Dry evergreen microphyllous forest with emergent *Allocasuarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer. 14. Sept. 2003.

03308: Central part of KADAVU (Kandavu) Island. In the first bay E of VUNISEA on the southern coast, at 1–4 m altitude. S 19°02.940', E 178°10.005'. Coastal bush and *Barringtonia asiatica* forest with transitions to dry evergreen microphyllous *Allocasuarina* forest. 14. Sept. 2003.

03309: Western part of KADAVU (Kandavu) Island. 2 km NE of TAVUKI village, at 150–175 m altitude. On orange red volcanic soil. S 19°04.097–101', E 178°07.980'–08.249'. Dry evergreen microphyllous forest with emergent *Allocasuarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer. 15 Sept. 2003.

03310: Western part of KADAVU (Kandavu) Island. 3 km ENE of TAVUKI village, in a rocky streambed above waterfalls, at 120 m altitude. S 19°04.354', E 178°08.700'. Streamside rainforest with tree-ferns and many buttressed trees, on big boulders. 15. Sept. 2003.

08012: TAVEUNI Island, DES VOEUX (DEVO) peak, near PWD Weather Station, on the summit ridge at 1180–1190 m alt. S 16°50'27", W 179°57'32–59.5".

Hab.: Elfin forest dominated by *Cunonia* sp. 11 Apr. 2008

08013: TAVEUNI Island, NW slope of DES VOEUX (DEVO) peak, below PWD Weather Station, at 900–1100 m alt. S 16°50'18–28", W 179°57'57–58". Montane mossy forest. 11 Apr. 2008

08015: N end of TAVEUNI Island, coast near NAEANGAI village. , at 1–2 m alt. S 16°43'57", W 179°51'22. Mangrove like forest dominated by *Heritiera littoralis*. Apr. 2008

08020: Central VITI LEVU, on the ridge of RAIRAIMATUKU Plateau, 15 km S of MONASAVU, at 924–960 m alt. S 17°48'43", E 178°02'06". Elfin forest with transition to mossy montane forest. 15 Apr. 2008

08023: Central VITI LEVU, RAIRAIMATUKU Plateau, on a summit with telecommunication tower, 16 km S of MONASAVU, at 1265 m alt. S 17°47'31", E 178°01'13.9". Elfin forest. 15 Apr. 2008

08028: Central VITI LEVU, on the ridge of RAIRAIMATUKU Plateau, 2 km E of MONASAVU Dam, on the SW side of a summit at 1050–1070 m alt. S 17°45'21", E 178°04'09". Shady, very wet elfin forest dominated by *Dicksouia brackenridgei*. 16 Apr. 2008

08029: Central VITI LEVU, RAIRAIMATUKU Plateau, NE side of a summit with telecommunication tower, 2 km E of MONASAVU Dam, at 1050 m alt. S 17°45'20", E 178°04'11". *Cyathea-Alpinia boia* elfin forest. 17 Apr. 2008

08032: Northern part of VITI LEVU Island. NADARIVATU Nature Reserve SW of Nadarivatu village, N of KORO'O summit at 920 m alt. S 17°34'05–10", E 177°56'55"-57'08". Mesic evergreen forest with *Podocarpus neriifolius*, *Decussocarpus* and *Agathis vitiensis*. 17 Apr. 2008

08033: Northern part of VITI LEVU Island. NAQUARANIBULUTI Nature Reserve 1 km E of NADARI-VATU village, along the track to Mt LOMALAGI, at 875 m alt. S 17°34'05", E 177°57'58". Mesic and dry evergreen forest with emergent *Podocarpus neriifolius* and *Agathis vitiensis*. 17 Apr. 2008

08034: Central VITI LEVU, RAIRAIMATUKU Plateau, near the FEA Station of MONASAVU Dam, along the road below the waterfalls, at 800 m alt., S 17°44'38", E 178°03'15". On naturalised *Piper* trees. 18 Apr. 2008

08035: Central VITI LEVU, RAIRAIMATUKU Plateau, at the SE end of the artificial MONASAVU Lake, around the FEA Station, at 790–800 m alt., S 17°44'39.5", E 178°03'10". On planted *Citrus* trees and ornamental shrubs. 19 Apr. 2008

08036: SE end of VITI LEVU Island, COLO I SUVA Forest Res. 9 km N from SUVA capital town, 1 km S of Raintree Lodge, at 200 m alt. S 18°03'47", E 178°27'24". Lowland rainforest at flat parts dominated by *Pandanus*. 20 Apr. 2008

08037: VITI LEVU Island, Veivatuloa Province, Coral Coast 7 km N of LOMBAU, in Nambukavesi Valley along Namosi Road, at 80 m alt. Epiphylls in lowland rain forest. 22 Apr. 2008

08038: SE part of VITI LEVU Island. COLO-I-SUVA 10 km NNE of SUVA town, in the garden of Raintree Lodge, at 185 m alt. S 18°03.498', E 178°27.44'. On dead leaf fallen from canopy. 20 Apr. 2008.